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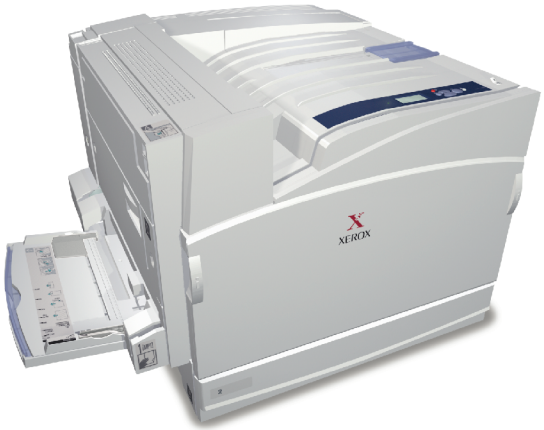
Phaser® 7750
Color Laser Printer

Service Manual



Phaser 7750 Color Laser Printer

Service Manual

Warning

The following servicing instructions are for use by qualified service personnel only. To avoid personal injury, do not perform any servicing other than that contained in the operating instructions, unless you are qualified to do so.

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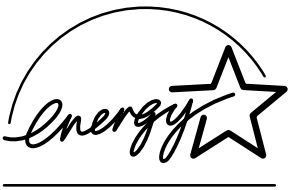

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Service Terms

Manual Terms

Various terms are used throughout this manual to either provide additional information on a specific topic or to warn of possible danger present during a procedure or action. Be aware of all symbols and terms when they are used, and always read NOTE, CAUTION, and WARNING statements.

Note

A note indicates an operating or maintenance procedure, practice or condition that is necessary to efficiently accomplish a task.
A note can provide additional information related to a specific subject or add a comment on the results achieved through a previous action.

Caution

A caution statement indicates an operating or maintenance procedure, practice or condition that, if not strictly observed, results in damage to, or destruction of, equipment.

Warning

A warning statement indicates an operating or maintenance procedure, practice or condition that, if not strictly observed, results in injury or loss of life.

Symbols Marked on the Product

DANGER high voltage.

Protective ground (earth) symbol.

Hot surface on or in the printer. Use caution to avoid personal injury.

The surface is hot while the printer is running. After turning off the power, wait 30 minutes.

Avoid pinching fingers in the printer. Use caution to avoid personal injury.

Use caution (or draws attention to a particular component). Refer to the manual(s) for information.

Power Safety Precautions

Power Source

For 110 VAC printers, do not apply more than 140 volts RMS between the supply conductors or between either supply conductor and ground. Use only the specified power cord and connector. For 220 VAC printers, do not apply more than 264 volts RMS between the supply conductors or between either supply conductor and ground. Use only the specified power cord. This manual assumes that the reader is a qualified service technician.

Plug the three-wire power cord (with grounding prong) into a grounded AC outlet only. If necessary, contact a licensed electrician to install a properly grounded outlet. If the product loses its ground connection, contact with conductive parts may cause an electrical shock.

Disconnecting Power

Turning the power off using the On/Off switch does not completely de-energize the printer. You must also disconnect the printer power cord from the AC outlet. Position the power cord so that it is easily accessible during servicing so that you may power down the printer during an emergency.

Disconnect the power plug by pulling the plug, not the cord. Disconnect the power cord in the following cases:

- if the power cord or plug is frayed or otherwise damaged,
- if any liquid or foreign material is spilled into the case,
- if the printer is exposed to any excess moisture,
- if the printer is dropped or damaged,
- if you suspect that the product needs servicing or repair,
- whenever you clean the product.

Electrostatic Discharge (ESD) Precautions

Some semiconductor components, and the respective sub-assemblies that contain them, are vulnerable to damage by Electrostatic discharge (ESD). These components include Integrated Circuits (ICs), Large-Scale Integrated circuits (LSIs), field-effect transistors and other semiconductor chip components. The following techniques will reduce the occurrence of component damage caused by static electricity.

Be sure the power is off to the chassis or circuit board, and observe all other safety precautions.

- Immediately before handling any semiconductor components assemblies, drain the electrostatic charge from your body. This can be accomplished by touching an earth ground source or by wearing a wrist strap device connected to an earth ground source. Wearing a wrist strap will also prevent accumulation of additional bodily static charges. Be sure to remove the wrist strap before applying power to the unit under test to avoid potential shock.
- After removing a static sensitive assembly from its anti-static bag, place it on a grounded conductive surface. If the anti-static bag is conductive, you may ground the bag and use it as a conductive surface.
- Do not use freon-propelled chemicals. These can generate electrical charges sufficient to damage some devices.
- Do not remove a replacement component or electrical sub-assembly from its protective package until you are ready to install it.
- Immediately before removing the protective material from the leads of a replacement device, touch the protective material to the chassis or circuit assembly into which the device will be installed.
- Minimize body motions when handling unpackaged replacement devices. Motion such as your clothes brushing together, or lifting a foot from a carpeted floor can generate enough static electricity to damage an electro-statically sensitive device.
- Handle IC's and EEPROM's carefully to avoid bending pins.
- Pay attention to the direction of parts when mounting or inserting them on Printed Circuit Boards (PCB's).

Service Safety Summary

General Guidelines

For qualified service personnel only: Refer also to the preceding Power Safety Precautions.

Avoid servicing alone: Do not perform internal service or adjustment of this product unless another person capable of rendering first aid or resuscitation is present.

Use care when servicing with power: Dangerous voltages may exist at several points in this product. To avoid personal injury, do not touch exposed connections and components while power is on. Disconnect power before removing the power supply shield or replacing components.

Do not wear jewelry: Remove jewelry prior to servicing. Rings, necklaces and other metallic objects could come into contact with dangerous voltages and currents.

Power source: This product is intended to operate from a power source that will not apply more then 264 volts RMS for a 220 volt AC outlet or 140 volts RMS for a 110 volt AC outlet between the supply conductors or between either supply conductor and ground. A protective ground connection by way of the grounding conductor in the power cord is essential for safe operation.

Warning Labels

Read and obey all posted warning labels. Throughout the printer, warning labels are displayed on potentially dangerous components. As you service the printer, check to make certain that all warning labels remain in place.

Safety Interlocks

Make sure all covers and the printer's front panel are in place and all interlock switches are functioning correctly after you have completed a printer service call. If you bypass an interlock switch during a service call, use extreme caution when working on or around the printer.

CLASS 1 LASER PRODUCT

The Phaser 7750 Color Laser Printer is certified to comply with Laser Product Performance Standards set by the U.S. Department of Health and Human Services as a Class 1 Laser Product. This means that this is a class of laser product that does not emit hazardous laser radiation; this is possible only because the laser beam is totally enclosed during all modes of customer operation. When servicing the printer or laser unit, follow the procedures specified in this manual and there will be no hazards from the laser.

Servicing Electrical Components

Before starting any service procedure, switch off the printer power and unplug the power cord from the wall outlet. If you must service the printer with power applied, be aware of the potential for electrical shock.

Warning

Turning the power off by using the On/Off switch does not completely de-energize the printer. You must also disconnect the printer power cord from the AC outlet. Position the power cord so that it is easily accessible during servicing.

Warning

Do not touch any electrical component unless you are instructed to do so by a service procedure.

7500-117

Servicing Mechanical Components

When servicing mechanical components within the printer, manually rotate drive assemblies, rollers, and gears.

Warning

Do not try to manually rotate or manually stop the drive assemblies while any printer motor is running.

7500-118

Servicing Fuser Components

Warning

This printer uses heat to fuse the toner image to media. The Fuser Assembly is VERY HOT. Turn the printer power off and wait at least 5 minutes for the Fuser to cool before you attempt to service the Fuser Assembly or adjacent components.

Regulatory Specifications

United States

The equipment described in this manual generates and uses radio frequency energy. If it is not installed properly in strict accordance with Xerox' instructions, it may cause interference with radio and television reception or may not function properly due to interference from another device. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiver (device being interfered with).
- Increase the separation between the printer and the receiver.
- Connect the printer into an outlet on a circuit different from that which the receiver is connected.
- Route the interface cables on the printer away from the receiver.
- Consult the dealer, Xerox service, or an experienced radio/television technician for help.

Changes or modifications not expressly approved by Xerox can affect the emission and immunity compliance and could void the user's authority to operate this product. To ensure compliance, use shielded interface cables. A shielded parallel cable can be purchased directly from Xerox at www.xerox.com/office/supplies.

Xerox has tested this product to internationally accepted electromagnetic emission and immunity standards. These standards are designed to mitigate interference caused or received by this product in a normal office environment. This product is also suitable for use in a residential environment based on the levels tested.

In the United States this product complies with the requirements of an unintentional radiator in part 15 of the FCC rules. Operation is subject to the following two conditions: (1) this device may not cause harmful interference; (2) this device must accept any interference received, including interference that may cause undesired operation.

Canada

This digital apparatus does not exceed the Class B limits for radio noise emissions from digital apparatus set out in the Radio Interference Regulations of the Canadian Department of Communications, ICES-003.

Le présent appareil numérique n'émet pas de bruits radioélectrique dépassant les limits applicables aux appareils numériques de la classe B prescrites dans le Réglement sur le brouillage radioélectrique édicté par le ministere des Communications du Canada, NMB-003.

European Union

Xerox Corporation declares, under our sole responsibility, that the printer to which this declaration relates is in conformity with the following standards and other normative documents:

Following the provisions of the Low Voltage Directive 73/23/EEC and its amendments:

EN 60950 (IEC 60950)	"Safety of Information Technology Equipment including Electrical Business Equipment"

Following the provisions of the Electromagnetic Compatibility Directive 89/336/EEC and its amendments:

EN 55022:1998 (CISPR 22)	"Limits and Methods of measurement of radio interference characteristics of Information Technology Equipment." Class B.
EN 61000-3-2:1995 +A1:1998+A2:1998 (IEC61000-3-2)	"Part 3: Limits - Section 2: Limits for harmonic current emissions (equipment input current less than or equal to 16A per phase)."
EN 61000-3-3:1995 (IEC61000-3-3)	"Part 3: Limits - Section 3: Limitation of voltage fluctuations and flicker in low-voltage supply systems for equipment with rated current less than or equal to 16A."
EN 55024:1998 (CISPR 24)	"Information technology equipment - Immunity characteristics - Limits and methods of measurement. "

CISPR 24 Immunity Phenomena	**Basic Standard**	**Test Specification**
Electrostatic Discharge	IEC 61000-4-2:1995	6 kV Contact, 10 kV Air
Radio-Frequency Electromagnetic Field (radiated)	IEC 61000-4-3:1995	80-1000 MHz, 3 V/m, 80% AM @ 1 KHz
Fast Burst Transients	IEC 61000-4-4:1995	5/50 Tr/Th ns, 5 kHz Rep. Freq 0.5 kV Signal Lines 1 kV AC Mains
Line Surge	IEC 61000-4-5:1995	Combination wave 2.0 kV Common mode 2.0 kV Differential mode
Radio-Frequency Electromagnetic Field (Conducted)	IEC 61000-4-6:1996	0.15 - 80 MHz, 3 V, 80% AM @ 1 kHz
Line voltage dips	IEC 61000-4-11:1994	>95% dip for ½ cycle @ 50 Hz 30% dip for 25 cycles @ 50 Hz

CISPR 24 Immunity Phenomena	Basic Standard	Test Specification
Line voltage drop-out	IEC 61000-4-11:1994	>95% dropout for 250 cycles @ 50 Hz

This product, if used properly in accordance with the user's instructions, is neither dangerous for the consumer nor for the environment.

A signed copy of the Declaration of Conformity for this product can be obtained from Xerox.

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General Information

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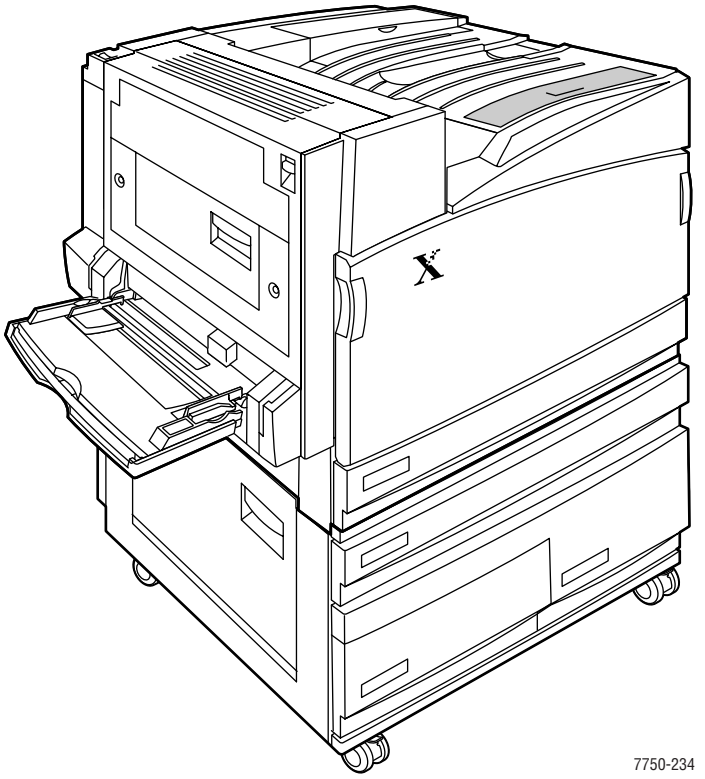
- Parts of the Printer
- Phaser 7750 Front Panel Configuration
- Image Processor Board and Rear Panel Host Interface
- Routine Maintenance Items and Consumables
- Printer Specifications

Chapter 1

Printer Introduction and Overview

The Xerox Phaser 7750 Color Laser Printer Service Manual is the primary document used for repairing, maintaining, and troubleshooting the printer.

To ensure understanding of this product, complete the Xerox Phaser 7750 Printer Multi-Media Service Training and Self-Study Guide.



Phaser 7750 Printer Configurations

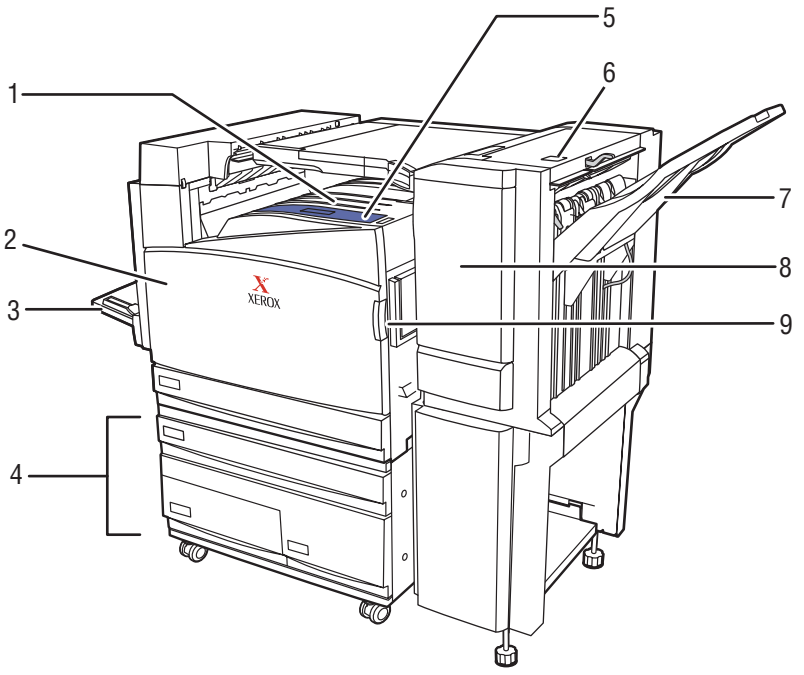
A replaceable “Configuration Chip” holds configuration information that enables or disables built-in features as described below.

Features	Printer Configurations			
	7750B	7750DN	7750GX	7750DXF
Processor and Clock Rate (Mhz)	G4 715	G4 715	G4 715	G4 715
Max Print Speed (Letter/A4)	35/35	35/35	35/35	35/35
Maximum Memory (GB)	1	1	1	1
Memory Configuration (MB)	256	384	512	512
Resolutions (dpi)	Base memory allows 1200 x 1200 dpi, full-clip path A3 image.			
Post Script Fonts	137	137	137	137
PCL5c Fonts	81	81	81	81
Direct PDF 1.4 Support	Std	Std	Std	Std
Job Pipelining	Std	Std	Std	Std
Hard Drive Productivity Features*	N/A*	Std	Std	Std
Full-Bleed Capability and Banner-Size* Printing	N/A*	Std	Std	Std
Photo Mode*	N/A*	Std	Std	Std
Automatic 2-Sided Printing*	N/A*	Std	Std	Std
1500-Sheet Lower Tray Deck	Opt	Opt	Std	N/A
2500-Sheet High-Capacity Feeder	Opt	Opt	N/A	Std
Ethernet Interface (Networking)	N/A*	10/100	10/100	10/100
USB 2.0	Std	Std	Std	Std
Hard Drive	Std	Std	Std	Std
Finisher	N/A	Opt	Opt	Std
PhaserMatch Version 3.0 Software	N/A	Opt	Std	Std
PhaserCal Software	Opt	Std	Std	Std

*Requires 7750B to 7750DN upgrade.

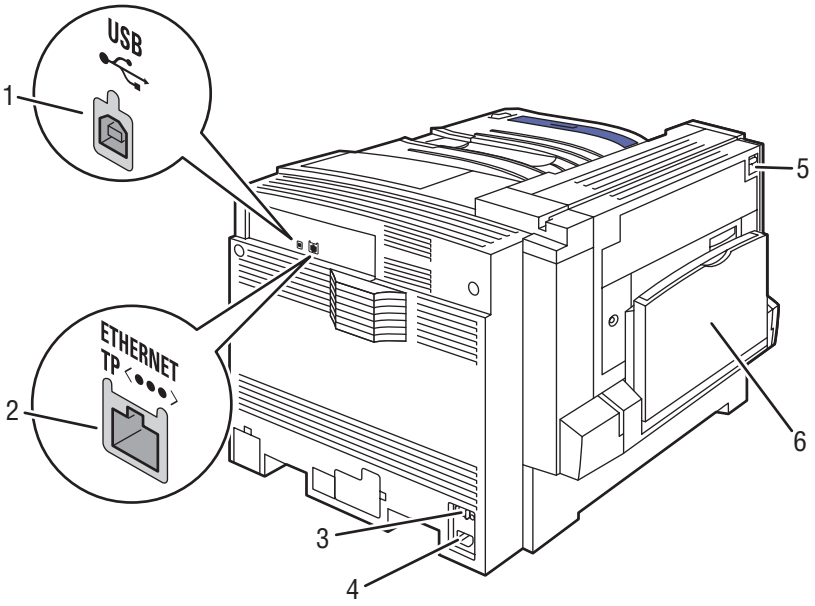
Parts of the Printer

Exterior - Front View



1. Face Down Tray
2. Front Door
3. Tray 1 (MPT)
4. 2500-Sheet High-Capacity Feeder (1500-Sheet Lower Tray Deck not shown)
5. Power Switch
6. Finisher Top Door H Release
7. Finisher Output Tray
8. Finisher Door J
9. Front Door right side release (release on left side not shown

Exterior - Rear View



1. USB Connection
2. Ethernet 10/100 Base-T Connection
3. GFI Reset Button
4. AC Power Cord Connection
5. Latch for Left Door A
6. Tray 1 (MPT) in closed position

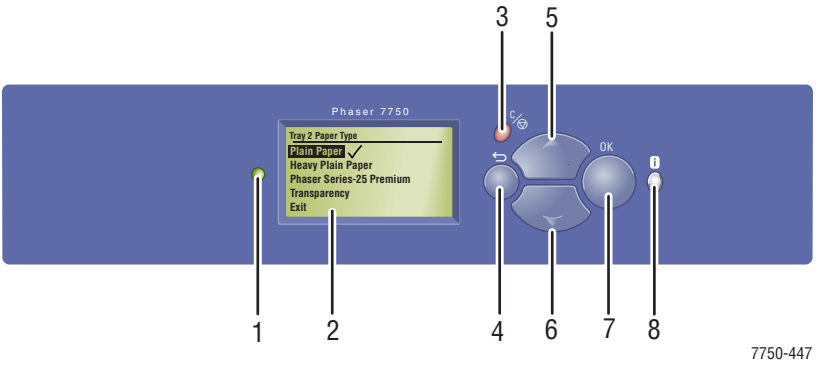
Phaser 7750 Front Panel Configuration

The printer's front panel consists of one LED, a display window, and six buttons. These buttons are used to navigate the menu system, perform functions, and select modes of operation for the printer.

LED Indicators:

- Green = Ready to Print
- Flashing Green = Receiving, Processing Data, Printing or Power Saver Mode
- Flashing Yellow = Warning
- Flashing Red (Continuously) = Error

Front Panel Button Descriptions



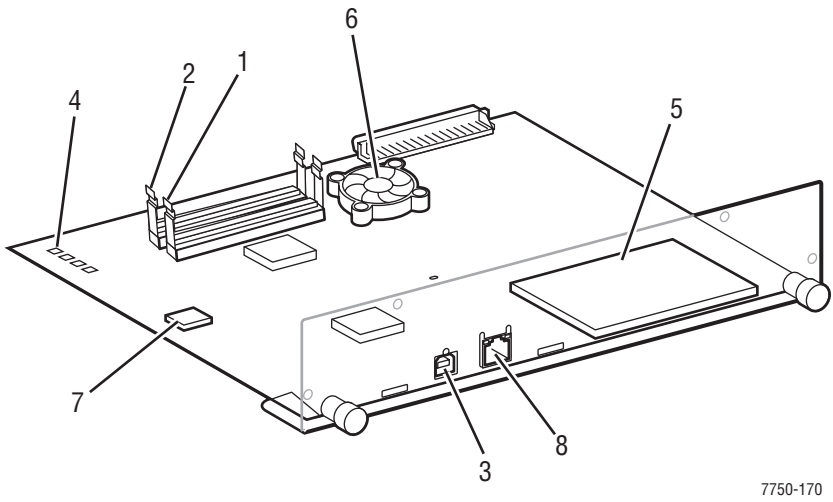
1	LED (Power/Status)	5	Up button - scrolls up the menu system
2	Graphic front panel display	6	Down button - scrolls down the menu system
3	Cancel button	7	OK (select) button
4	Back button	8	Information "i" button - for additional explanation or help

Front Panel Shortcuts

Mode	Press this selection at Power On
Skip execution of POST diagnostics	OK
Print Service Diagnostics Map	INFO
Reset PostScript NVRAM	BACK+OK
Password Bypass	UP+DOWN
Enter Service Diagnostics	BACK+INFO

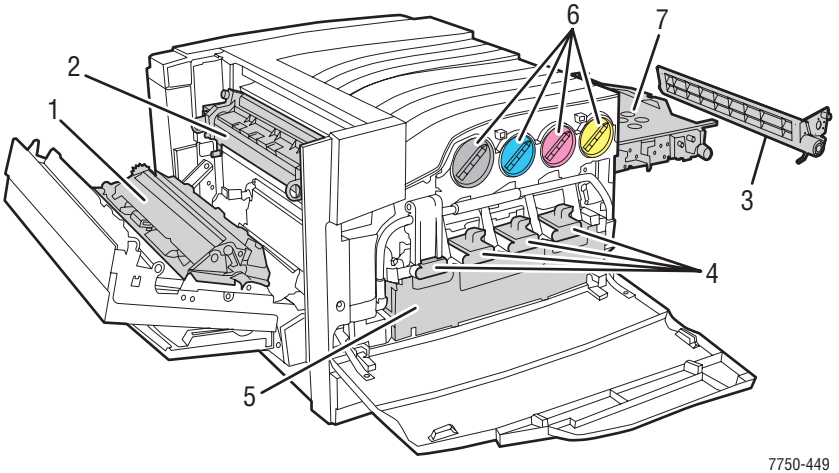
Image Processor Board and Rear Panel Host Interface

The components on the image processor board are illustrated in the following figure.



1. RAM (SODIMM)
2. RAM (SODIMM)
3. USB Connector
4. Health LEDs
5. Hard Drive
6. Processor Fan
7. NVRAM
8. Ethernet Connector

Routine Maintenance Items and Consumables



Routine Maintenance Items

1. Transfer Roller
2. Fuser
3. Belt Cleaner Assembly
4. Imaging Units
5. Waste Cartridge

Consumables

6. Toner Cartridges

Service Parts

7. Accumulator Belt

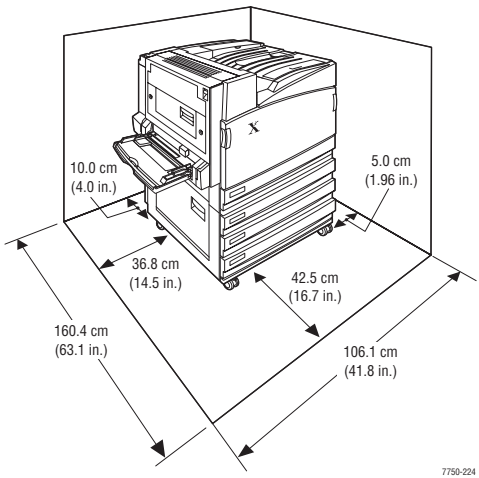
Consumable capacity is based on 5% per color on A4/Letter paper.
Routine Maintenance Item capacity is based on A4 @ 5%.

Routine Maintenance:		**Consumables:**	
Transfer Roller	100,000	Cyan Toner	22,000
Imaging Units	30,000 A4 images	Magenta Toner	22,000
Fuser Unit	60,000	Yellow Toner	22,000
Waste Cartridge	27,000	Black Toner	32,000
Service Parts:			
Accumulator Belt	Lifetime (480,000 - coverage independent)		

Printer Specifications

Physical Dimensions and Clearances

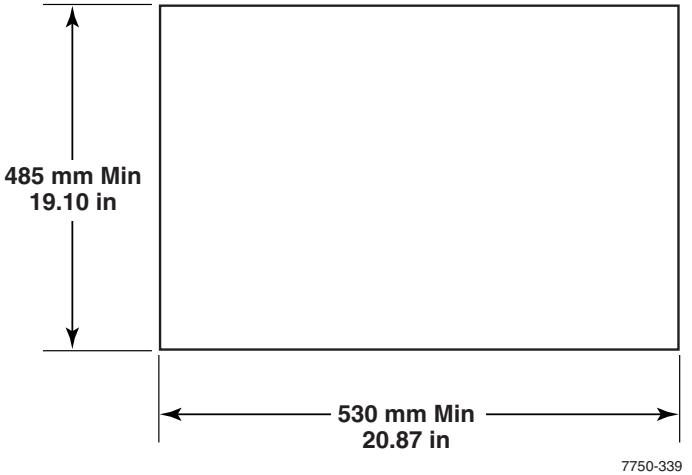
Print Engine Dimensions	Value
Height:	493 mm (19.4 in.)
Width:	644 mm (25.4 in.)
Depth:	715 mm (28.15 in.)
Weight:	91 kg (200 lbs.)
2500-Sheet High-Capacity Feeder Dimensions	**Value**
Height:	364 mm (14.3 in.)
Width:	644 mm (25.4 in.)
Depth:	682 mm (26.9 in.)
Weight:	40 kg (88 lbs.)
1500-Sheet Lower Tray Deck Dimensions	**Value**
Height:	364 mm (14.3 in.)
Width:	644 mm (25.4 in.)
Depth:	682 mm (26.9 in.)
Weight:	30 kg (66 lbs.)
Clearances - For the optional finisher clearances, see "Phaser 7750 Finisher" on page 11-1	



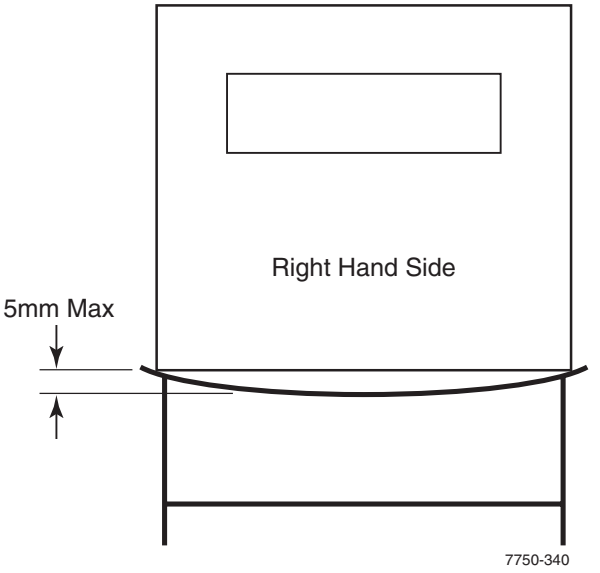
Mounting Surface Specification

These specifications apply to any Phaser 7750 printer used as a table-top printer, without a lower tray assembly or cart. There are 4 feet on the bottom of the printer. The right hand side of the printer is more susceptible to problems due to foot placement.

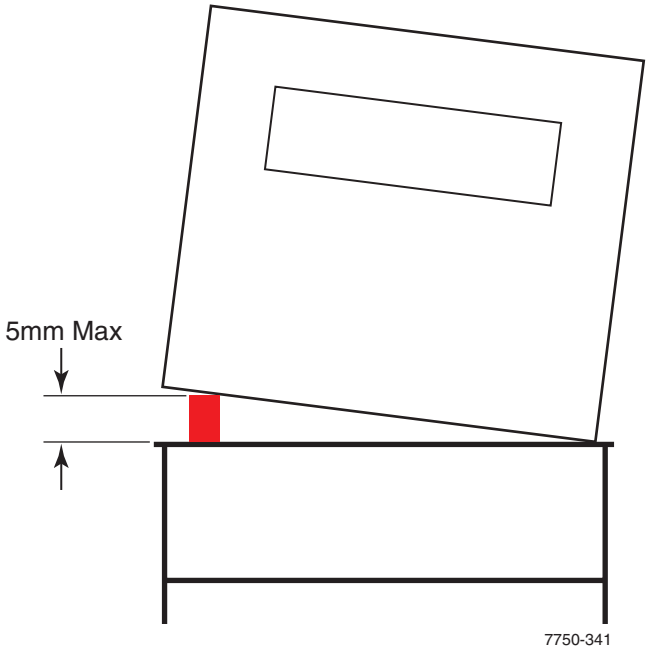
1. In order to function properly, the printer must be located on a surface with the following **minimum** dimensions. All 4 feet must rest squarely on the mounting surface.



2. Mounting surface flatness must be within the range shown in the following figure.



3. The printer must not be tipped or tilted more than is shown in the following figure.



Failure to adhere to these mounting specifications will void all guarantees of print quality and/or performance. Known problems that can occur as a result of exceeding the mounting surface specifications are:

- Color-to-Color mis-registration, primarily in the horizontal (laser scan) direction.
- A smear or band of toner approximately 40 mm from the trailing edge of the print.

Functional Specifications

Characteristic	Specification
Printing process	The Phaser 7750 printer uses lasers with an electrophotographic four-color (CMYK) single pass print process.
Color medium	Four color toner cartridges: Cyan, Yellow, Magenta, and Black EAHG Toner
Resolution / Print Modes	**Standard:** 1200 x 600 dpi **OHP**: 1200 x 600 dpi **Enhanced**: 1200 x 1200 dpi **Photo**: 1200 x 1200 x 1-bit under color
First Page-Out (Letter/ A4)	< 11 seconds color <10 seconds monochrome
Warm-up time	Warm up time to Ready from power on or ENERGY STAR, 40 seconds. First page out from Ready, 7.4 seconds mono, 6.7 seconds color.

Print Speeds

Speeds	Ltr/A4	Ltr/A4 Duplex	Tab/A3	Tab/A3 Duplex
Standard 1200 x 600 dpi	35	28	17	13/13
Photo 1200 x 1200 dpi	22	18	11	8
OHP	8	N/A	N/A	N/A
Card	11	N/A	9	N/A
Labels	N/A		N/A	

Electrical Specifications

Characteristic	Specification
Primary line voltages	115/127 VAC 10 A 200/240 VAC 5 A
Frequency range	50/60 Hz (+/- 3 Hz)
Power consumption	Power saver: 45 watts Standby: 130 watts Ready: 220 watts Continuous Printing: 220 to 600 watts average Peak (warming up): 1100 watts

Environmental Specifications

Characteristic	Specification
Temperature:	Operating: 10 to 32° C Storage: -20 to 50° C
Humidity	Normal operating: 10 to 85% relative humidity Optimum operating: 25 - 75%
Altitude	0 to 2500 m (8000 ft.)
Acoustic Noise	Idle: 29 dB(A) Printing: 52 - 53 dB(A)

Media and Tray Specifications

For information on approved Phaser 7750 media and paper types, print the “Paper Tips Page” from the printer’s front panel.

Theory of Operation

In this chapter...

- Summary of the Phaser 7750 Print Process
- Paper Path of the Printer
- EAHG Toner
- Technology Overview
- ROS and Regicon Technology Overview
- RegiCon Overview
- Sensors

Chapter 2

Summary of the Phaser 7750 Print Process

The Phaser 7750 Color Laser Printer is a 'full-color laser printer', that utilizes electrophotographic recording principles to place a full color image onto the print media. The system contains a drum and developing unit for each color (yellow, magenta, cyan and black (YMCK), and places the toner image of each color onto print media via an intermediate transfer belt, producing full-color prints.

A summary description of the printing process is presented in the following steps:

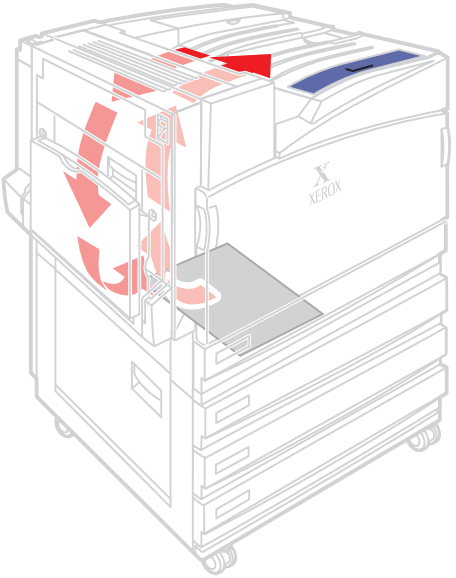
1. **Charging:** The imaging unit charge roller is negatively charged by the High-Voltage Power Supply (HVPS) and is kept in contact with the drum surface to provide a uniform negative charge on the drum as it rotates at a constant speed. This occurs simultaneously for YMCK.
2. **Exposure:** The laser unit emits laser beams modulated by image data from the Image Processor board. The laser beams are directed onto the drum surface through a system of mirrors and lenses. A rotating polygonal mirror causes the laser beams to scan the drum surface from end to end (axially) as it rotates. The beams are turned on to print a pixel and off when no printing is required. The negative charge on the drum surface is reduced at each point where the energized laser beam strikes, to form an electrostatic latent image on the drum surface. This process is performed simultaneously for YMCK.
3. **Development:** Toner is electrostatically attracted to the invisible latent image on the drum surface to form the visible image on the drum. Toner is fed into the developer using the agitator and auger. The toner and the carrier in the developer form a layer on the magnet roller in the developer. The magnet roller turns against the surface of the drum and is kept at a constant negative potential. At areas on the drum surface where the negative charge has not been reduced by the laser light, potential between the drum and the toner particles is lower than that between the magnet roller and the toner particles. At areas where the drum charge has been reduced, the potential between the particles and drum is higher than between the magnet roller and toner particles are attracted to the drum. A thin semiconductive sleeve on the magnet roller is vibrated by an AC voltage to encourage migration of the toner particles to the drum. When the toner particles attach to the drum, the negative charge of the particles reduces drum potential at that point, thus reducing the attraction of additional toner particles. This process is performed simultaneously for YMCK.
4. **Primary Transfer (Drum --> Accumulator Belt):** All four toner images, formed on the individual drum surfaces, are transferred to the accumulator belt sequentially to create a complete, 4-color toner image. The accumulator belt is conductive and receives a high positive charge from the HVPS. The negatively charged toner image on each drum surface is attracted by the high positive potential and transfers to the accumulator belt. During this transfer, the remaining negative charge on the drum is neutralized by the high positive charge on the belt.
5. **Cleaning:** The drum cleaner consists of a blade and a brush in contact with the drum after the point where the toner is transferred to the accumulator belt. The cleaner brush receives a high positive voltage from the HVPS allowing it to electrically attract any toner particles remaining on the drum. Toner remaining on the accumulator belt after the image transfer to the print media is removed by the belt cleaner assembly and transferred to the waste bin.

6. **Secondary Transfer:** The image on the accumulator belt is transferred onto the print media using the voltage supplied by the transfer roller. The conductive transfer roller receives a high positive voltage from the HVPS that puts it at a higher potential than the accumulator belt. Since the transfer roller is located behind the print media, the 4-color toner image is attracted to the lower potential and transfers to the surface of the print media.
7. **Cleaning:** The accumulator belt cleaner consists of a cleaner blade in contact with the accumulator belt surface after the point where the toner is transferred to the print media. Toner remaining on the accumulator belt after the image transfer to the print media is stored in the waste cartridge.
8. **Fixing:** The finished toner image is unstable and easily smeared. To fuse the image, the print media goes through the fuser assembly where it passes between a pressure belt and the heat roller. The toner is fused onto the print media by the combination of heat and pressure.

Paper Path of the Printer

The Phaser 7750 printer has a C-shaped paper-handling path. The design helps it achieve high production outputs. The paper paths available for the paper exiting the fuser are:

- Straight to the Output Tray in the Top Cover (facedown).
- Straight to the optional Finisher.
- Paper can be inverted for 2-sided printing.



7750-125

Trays 1-5

The paper trays consist of four main trays and one Multi-Purpose Tray on the side of the printer. Tray 1 (MPT) is located on the left side of the machine and allows feeding of specialty media stock, envelopes, and custom size paper. On the GX configuration, Trays 2, 3, 4, and 5 are identical and can be interchanged. On the DXF configuration (not shown), Trays 2 and 3 are identical and can be interchanged. Trays 4 and 5 are the high-capacity feeder paper trays.

Paper Size Sensing

Trays 2 through 5 automatically sense the standard size media loaded in the printer by using the paper size sensors mounted on the back inside of the printer. When paper is loaded in the tray and the paper guides are adjusted, the levers on the bottom of the trays change the size sensor actuator locations.

Actuating different combinations of the paper size sensors produces different combinations of high and low signals, which tell the printer logic what size of paper to display on the front panel, once the tray has been re-inserted into the printer.

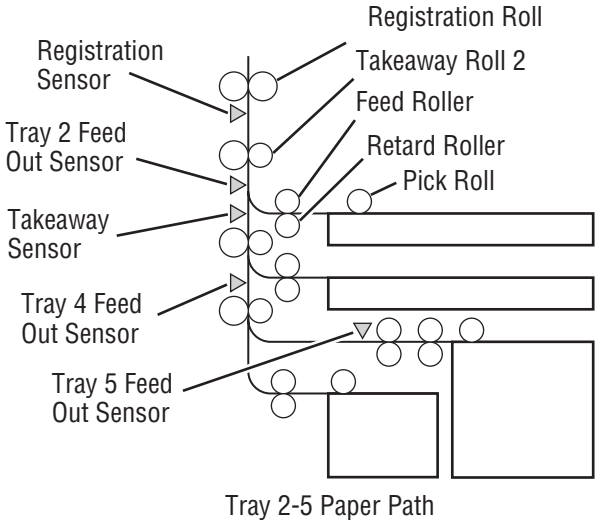
Tray presence is also detected by the paper size sensor. Any actuation of the paper size sensor signals the tray is present.

Paper Feeding and Sensing

Note

The tray feed / lift motor is a dual purpose motor, providing both the paper feed and tray lift drive functions.

When the control logic calls for paper feed, the pick roller moves a sheet of paper to the nip of the feed rollers and retard rollers. The rollers feed the paper to the takeaway roller in the vertical transport where it is stopped and registered at the registration roller.



Tray 2-5 Paper Path

7750-456

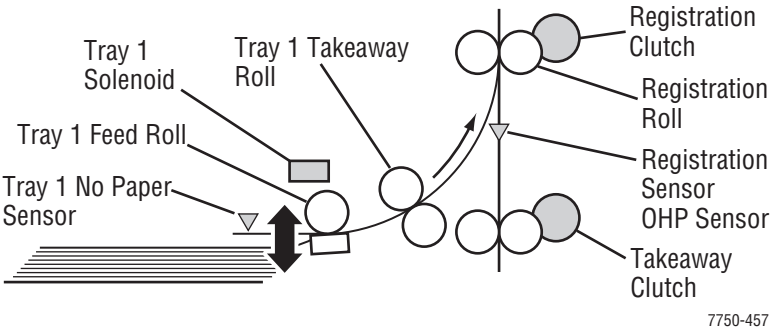
Stack Height Sensing

The pick roller feeds the paper to the paper path. As paper continues to feed, the stack height drops. When it reaches a certain level an actuator unblocks the stack height sensor. The control logic then stops paper feed and raises the paper tray. This causes the actuator flag to block the stack height sensor again which signals the control logic to resume feeding paper. The stack height sensing operates the same way for Trays 2, 3, 4, and 5.

Paper Present Sensing

When the last sheet is fed from any of the four main trays, the no paper sensor actuator drops into an opening in the paper tray and unblocks the no paper sensor.

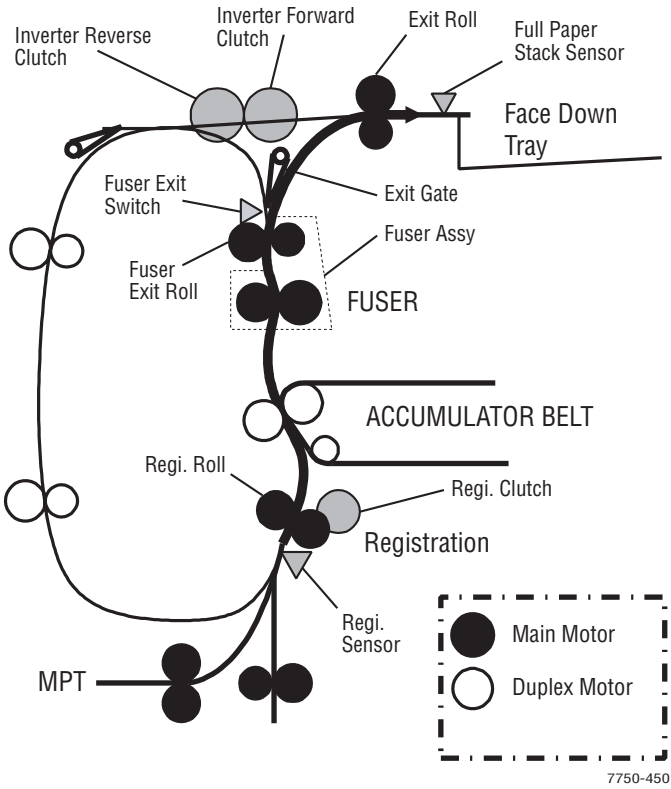
Tray 1 (MPT) Loading and Feeding



When media is placed in Tray 1, the lead edge deactuates the Tray 1 no paper sensor. The sensor signals the control logic that paper is present. When the last sheet of paper is fed from the tray the actuator drops through the opening of the tray and activates the sensor.

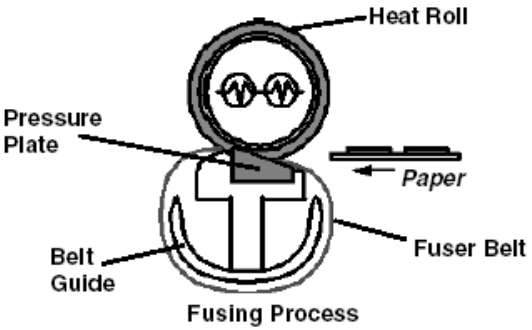
When the user prints from Tray 1, the control logic supplies mechanical drive to the feed roller and nudger. When the control logic calls for paper feed, it sends a feed signal to momentarily energize the Tray 1 solenoid causing the feed roller to pivot down. When the pick roller contacts the paper, a sheet is fed into the nip between the feed roll and the takeaway roll.

2-Sided Printing



Paper leaving the fuser can be directed to the top output tray or the finisher. If 2-sided (duplex) printing has been selected, paper can be directed through the inverter transport and into the duplex transport. The duplex paper path reverses the direction of paper travel and the duplex gates direct the paper through the inverter and into the duplex transport. An image can then be placed on the second side of the media.

Fuser



The fuser receives its drive from the main motor. After the toner images are applied to the paper, the paper is then passed through the fuser. The fuser belt is pressed against the heat roller to melt the toner and bond it to the paper.

The fuser belt is always spring loaded against the heat roller, but can be released for jam clearance. The flexibility of the belt (versus a pressure roller) provides a longer contact time and a larger area of contact with the heat roller, thereby providing better fusing.

Fuser Life Expectancy

The life expectancy of the fuser is 60,000 letter/A4 size pages. Several factors can reduce the life of the fuser:

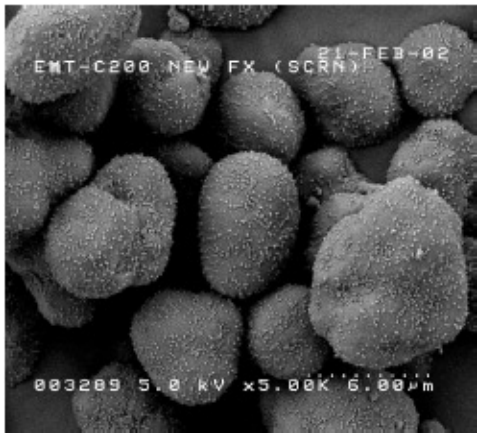
- Greater than 5% coverage
- Paper use larger than letter size
- Printing on heavy media
- Printing short-edge feed
- Printing on transparencies or specialty media

Three fuses on the fuse board in the fuser assembly are used in conjunction with a PostScript algorithm to determine the life used. Fuses are blown in the reverse order than they were on the Phaser 7700 (3,2,1 instead of 1,2,3). Fuse #3 is blown after 100 prints are made. Fuse #2 is blown at 50% of life and fuse #1 is blown at 99% of life used.

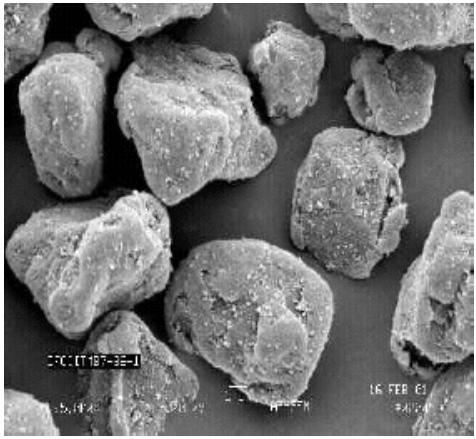
If fusers are swapped between printers and don't have the exact same configuration of blown and closed fuses the printer will make a fuser life assumption based on which fuses are closed and then set the fuser life using that assumption after 100 prints are run. All fuses closed, new fuser. Fuse 3 open, fuse 2 and 1 closed, life will be set at 25% used. Fuse 3 and 2 open fuse 1 closed, life will be set at 75% used. All fuses open, life is set at 99% used.

EAHG Toner

EA (Emulsion Aggreate High Gloss) toner is a relatively new type of toner with particles that are more spherical and uniform in size. This toner will be used for all Phaser 7750 Printer applications. The image below shows the EA toner particles. The small bumps are particles of additives that produce some of the characteristics of the new toner.



The image below shows some DC12 conventional toner. Like the EA toner, the small bumps on the outside of the toner particles are additives that are used to provide specific characteristics.



Technology Overview

Standby Power

There are two types of standby power in this machine: switched AC and switched DC. Switched power requires that both the circuit breaker and the printer's main power switch be in the ON position.

- Switched AC Power - This is the control signal whose power off transition is delayed to allow the second bias transfer roller to retract.
- Switched DC Power - Switched AC power from the AC Drive PWB goes to the low voltage power supplies for the printer. Whenever switched AC power is provided to the three low voltage power supplies, their output DC voltages are activated by a 5 VDC signal.

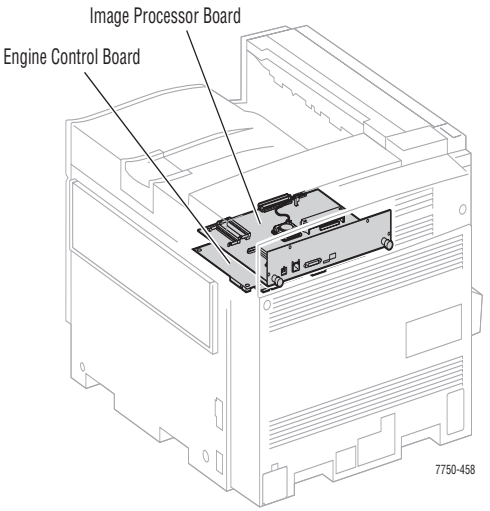
Machine Run Control and NVRAM

Machine control centers on the following:

- Engine Control Board
- Image Processor Board

Machine parameters are held by non-volatile memory located in two places:

- Image Processor NVRAM
- Engine NVRAM

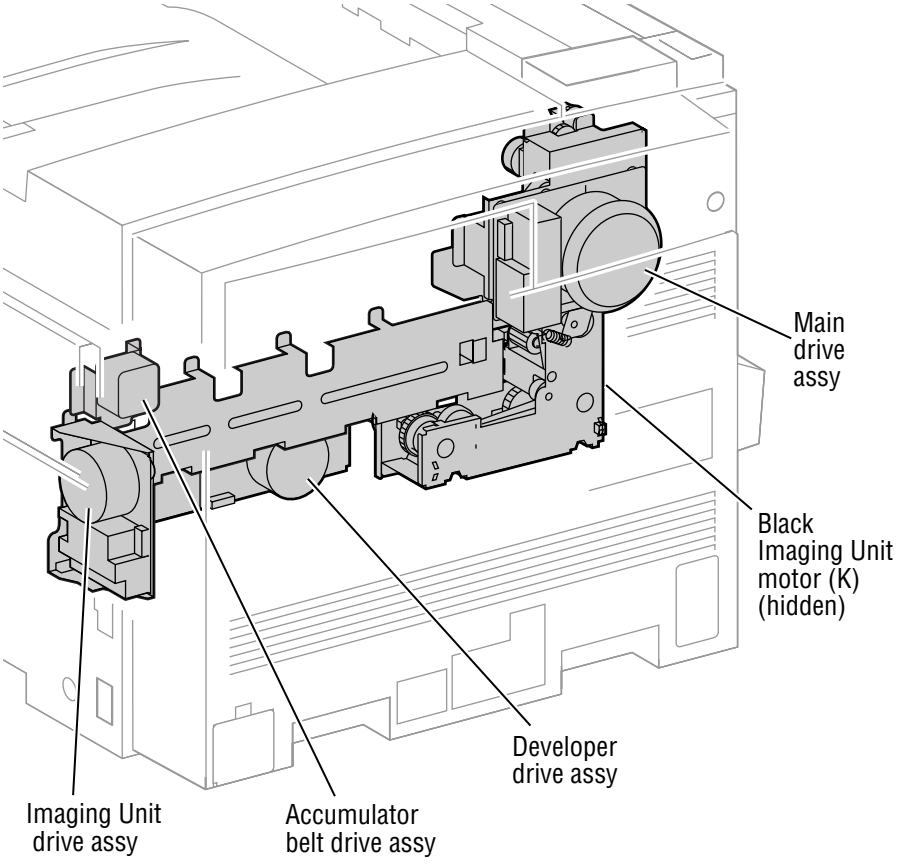


Drive Power

The Drive Power subsystem includes five motors and their driven assemblies.

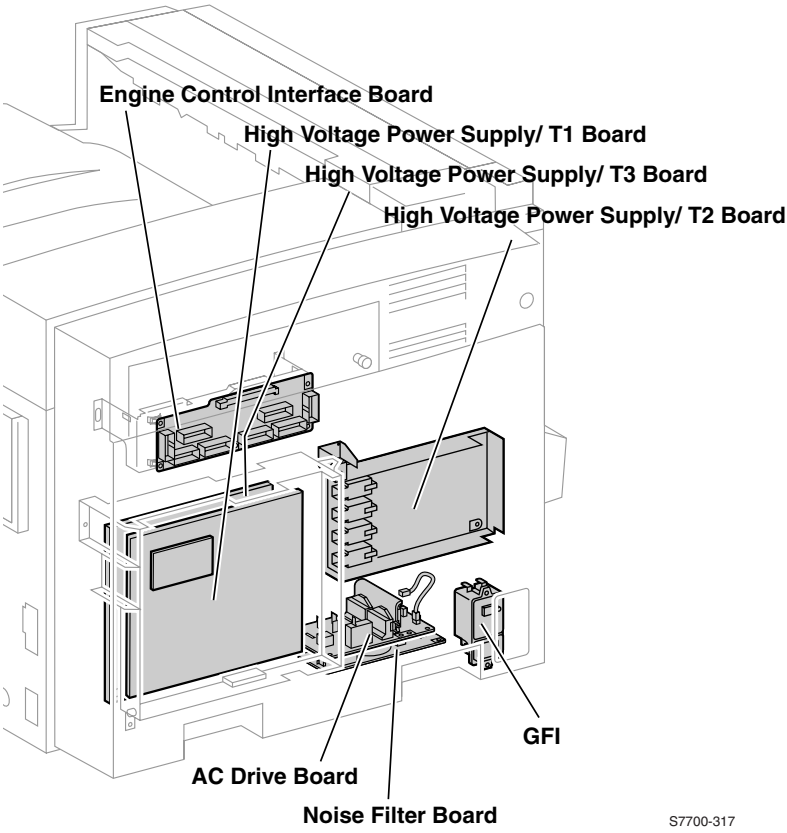
- Main Motor - The main motor provides the drive for paper feed, black developer housing, and the fuser. The main motor gets 24 VDC power from the +24 Volt power supply by way of the interface board. The motor enable and speed control signals come from the microprocessor on the engine control via the interface board.
- Accumulator Belt Motor - The accumulator belt motor turns the drive roller for the accumulator belt and the accumulator belt cleaner auger.
- Transfer Roller Motor - Engages and retracts the transfer roller.
- Developer Motor - The developer motor provides the drive for the C, Y, and M developers.

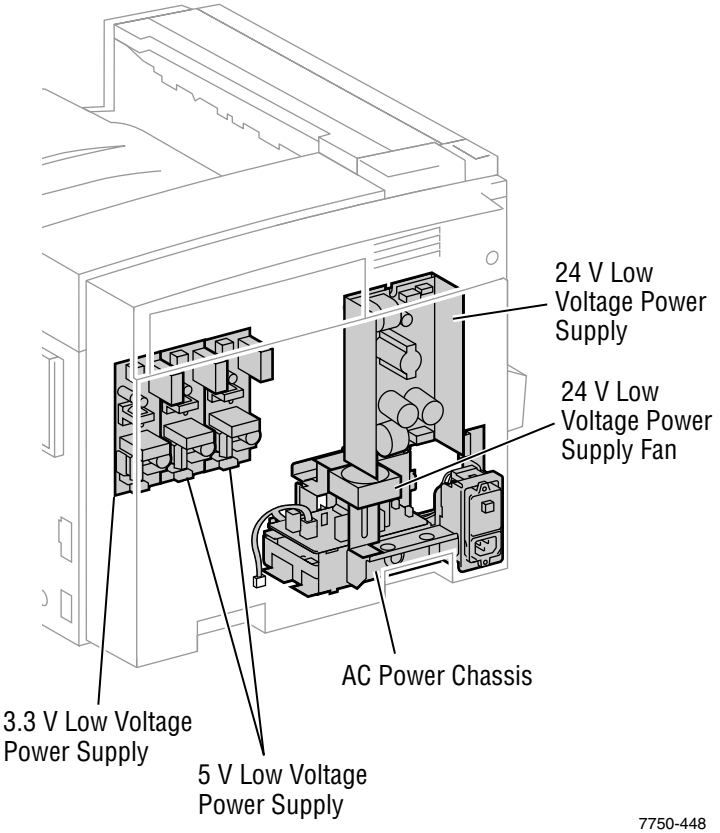
- Imaging Unit Motors - There are two imaging unit motors providing drive to the four imaging units: one drives the Y, M, and C drums, and the other drives the K (black) drum. Like the main motor, the drum motors get 5 and 24 volt DC power from 5 and 24 volt power supplies via the interface board. The motors are enabled and the speed is controlled by the engine control board.



System Power Supplies

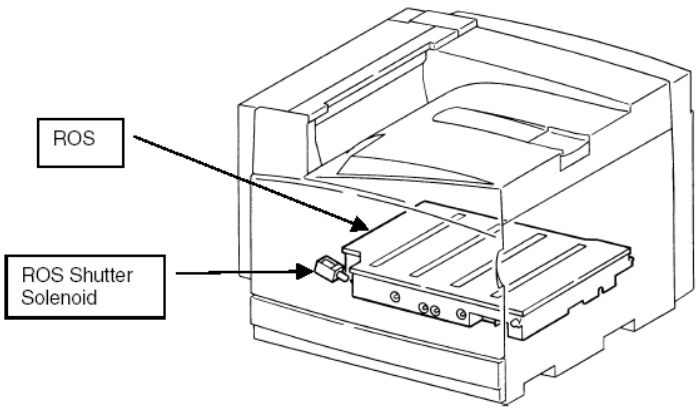
The System Power Supplies consist of: the T1, T2, and T3 HVPS, the 24 Volt LVPS, 3.3 VDC LVPS, and the (2) 5VDC LVPS.




24 V Low
Voltage Power
Supply
24 V Low
Voltage Power
Supply Fan
AC Power Chassis
3.3 V Low Voltage
Power Supply
5 V Low Voltage
Power Supply
7750-448

ROS and Regicon Technology Overview

The locations of the ROS and the ROS shutter solenoid are shown in the following figure.



- There are four ROS shutters (not shown).
- The ROS module is field replaceable and contains four laser diodes, one polygon motor/mirror, and several lenses and mirrors.
- The ROS module “reflects” the four laser beams so that they strike the Imaging Units correctly.
- The ROS module contains four mirrors that can be adjusted for skew using RegiCon. This adjustment **MUST** be made when the ROS is replaced.
- **NEVER** remove the cover from a ROS module for **ANY** reason - contamination will result.

Write Black Process

The Phaser 7750 Printer uses a “black writing” process for exposing the imaging units.

In the write black process, the image areas are discharged, or exposed. Because the image area is normally much smaller than the background area, the Write Black approach extends the life of the laser diode.

In the Write Black process, the negative toner particles are attracted to the more positive image areas on the photoreceptor and repelled by the higher negatively charged background areas. A negative developer bias voltage assures good development of the image areas.

In the Write Black process for the Phaser 7750 printer, the four individual images, one in each color, are transferred to the surface of the accumulator belt.The second transfer roller puts a positive charge on the copy paper. Then the four-color image is transferred to the sheet of paper in one pass. The positive charge attracts the negative toner particles from the accumulator belt to the copy paper.

The image data is processed through the image processor board and is then routed to the engine control board. On the image processor board, the process of screen generation is conducted. In this process, the incoming image data is arranged in a screen pattern before being sent to the ROS (Laser).

The engine control board is the ROS driver board. In other words, it is the last location in the imaging path before the image data becomes optical information in the form of modulated laser beams.

In the case of the Phaser 7750 printer, the engine control board sequentially passes data that comprises the 4 different color planes to the Laser Diodes in the ROS.

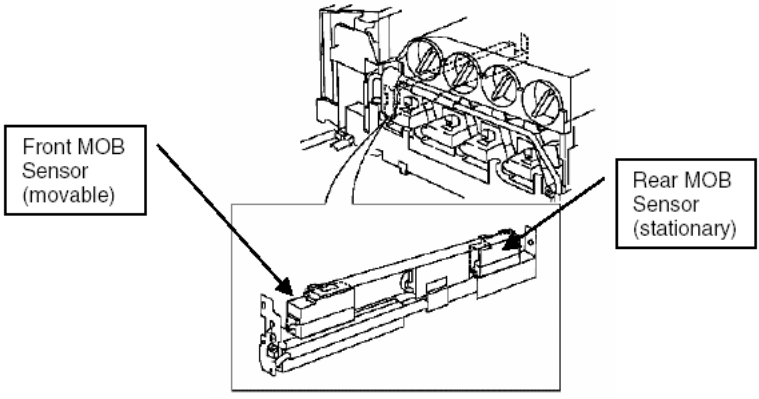
The color planes are digital at this time, that is, they are a stream of 1's and 0's. The digital information is applied to the ROS control circuit to turn the laser diodes on and off. (A 0 turns the laser on and a 1 turns it off.) Using this technique, the digital levels that make up the image data are modulated onto the laser beams.

As each of the four laser diodes scans the surface of the drum (in the YMCK sequence), the image data is reflected and collimated within the ROS and is finally reflected out to each imaging unit where the charged photoreceptor is exposed by the laser. As the laser beam scans across the photoreceptor, a latent image is created on the surface of the drum. As the imaging unit turns, it acquires the latent image from the ROS, and toner from the developer housing.

RegiCon Overview

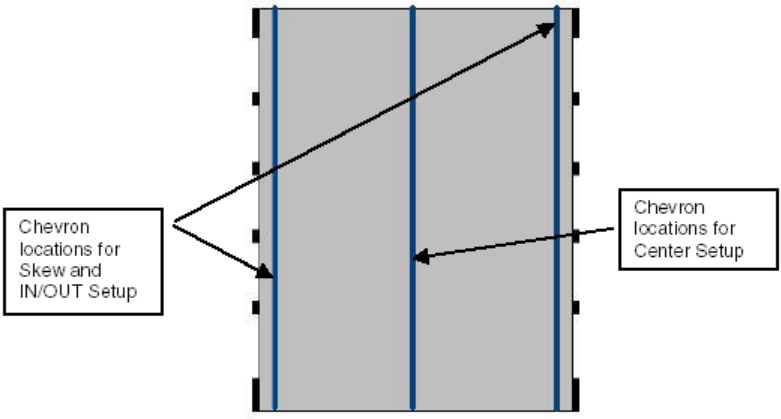
The RegiCon procedure is used to ensure that the four lasers in the ROS are correctly aligned to provide correct registration for each color.

The Mark On Belt (MOB) sensors are used in this procedure to determine the relative position of chevrons developed onto the accumulator belt.



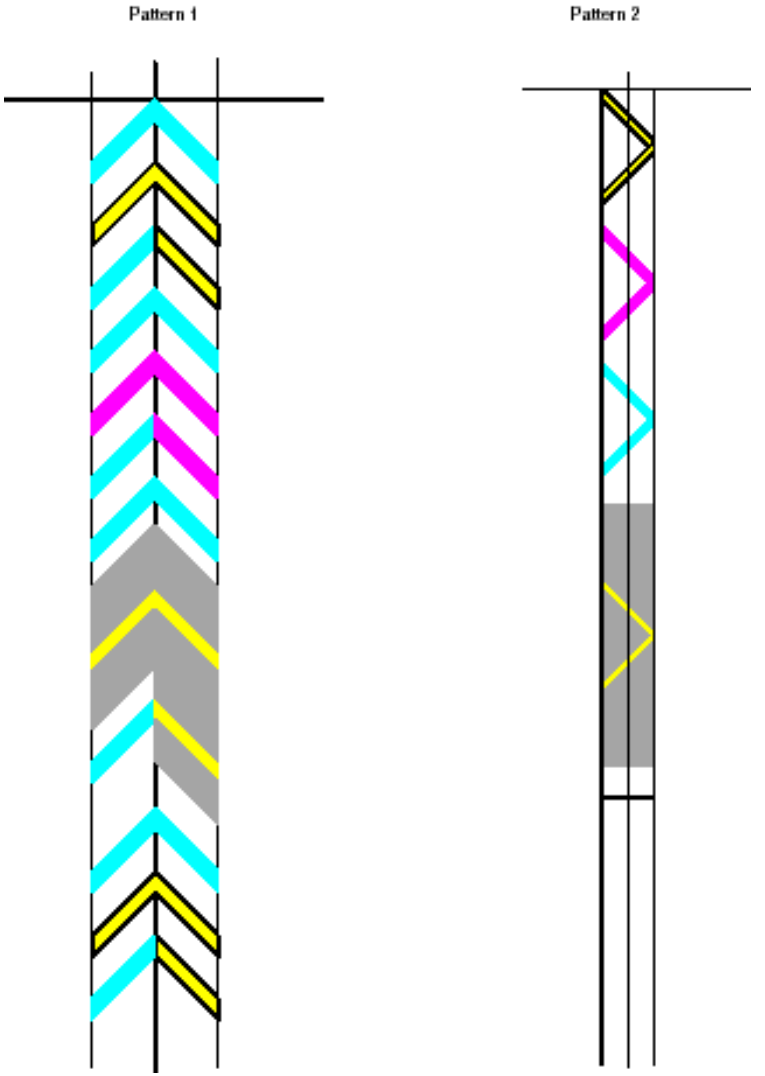
The MOB sensors are located below the accumulator belt. The RegiCon procedures, read chevrons on the front, rear, and center of the accumulator belt.

In the Center Setup procedure, the position of the front MOB sensor is changed to allow it to read the chevrons developed on the center of the accumulator belt.



Locations of Chevron Patterns (IBT Belt from bottom)

The chevron patterns used for the RegiCon setup are shown in the following figure.



The components of the RegiCon adjustment include:

- Skew (Fine) Setup (Pattern 1)
- IN/OUT Setup (Pattern 1)
- Center Setup (Pattern 1)
- Coarse Skew Setup (Pattern 2)

#1 Skew (Fine) Setup

The Skew (Fine) Setup is performed to ensure that images on the accumulator belt are not skewed.

To complete this part of the procedure, a series of chevron images are developed on the belt, using all four colors. (Pattern 1 on the previous figure shows the chevron patterns). The chevron patterns are developed on the belt on the front and rear edges of the accumulator belt. The MOB sensors read them, and the horizontal and vertical position of the marks are calculated. If the marks are found to be skewed, the diagnostic tool indicates the number of clicks and direction that the adjustment screws on the front of the ROS should be turned to correct the skew.

#2 IN/OUT Setup

Like Skew, the IN/OUT Setup procedure uses the chevrons that are developed on the front and rear edges of the accumulator belt. (Pattern 1 on the previous figures shows the chevron patterns). During this procedure, logic automatically performs a magnification adjustment so that the scan lines are the same length for all four colors.

#3 Center Setup

The Center Setup procedure determines if the chevrons developed on the center of the accumulator belt are in the correct location relative to the front and rear chevrons.

To perform the procedure, the MOB sensor is positioned to the center of the accumulator belt and the chevrons are developed. (Pattern 1 on the previous figures shows the chevron patterns).

In this procedure, the midpoints of the scan lines for all four colors are aligned for magnification balance.

#4 Skew (Rough) Setup

The Skew (Rough) Setup is used only when skew is outside of the measurement parameters of Skew (Fine) Setup. It should be run in situations when the registration is so far out of specification as to be immeasurable by the Skew (Fine) Setup routine. In this routine, Pattern 2 (from the figure showing the chevron patterns) is developed and the registration of the images is calculated. If necessary, the skew of the image can be adjusted manually.

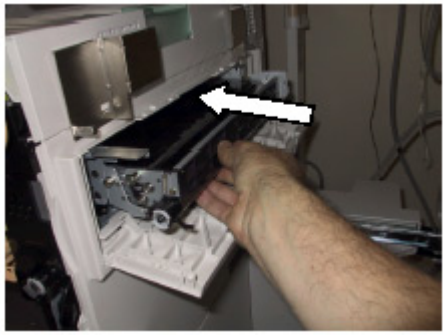
View the RegiCon Patterns

It is possible to see the patterns that are developed on the accumulator belt for the RegiCon calibration by performing the following steps:

- If there is a finisher present on the machine, slide it to the right so that the right hand access door to the accumulator belt can be opened. Open the access door and activate the interlock.
- Power down the Phaser 7750 printer.
- Open the front door and release the accumulator belt by releasing the latch assembly and pulling down the lift lever as shown in the figure below.

- Lift the accumulator belt assembly release and pull the accumulator belt assembly out until the stand plate is accessible.
- Remove two screws that hold the stand plate on the front and rear of the accumulator belt assembly. Lift the stand plate as shown in the figure below, and remove it.

- Reinsert the accumulator belt assembly into the Phaser 7750 printer without the Stand Plate. The area that was covered by the Stand Plate will be the area in which you see the images on the accumulator belt.



- With the right hand door interlock activated, turn the printer on.

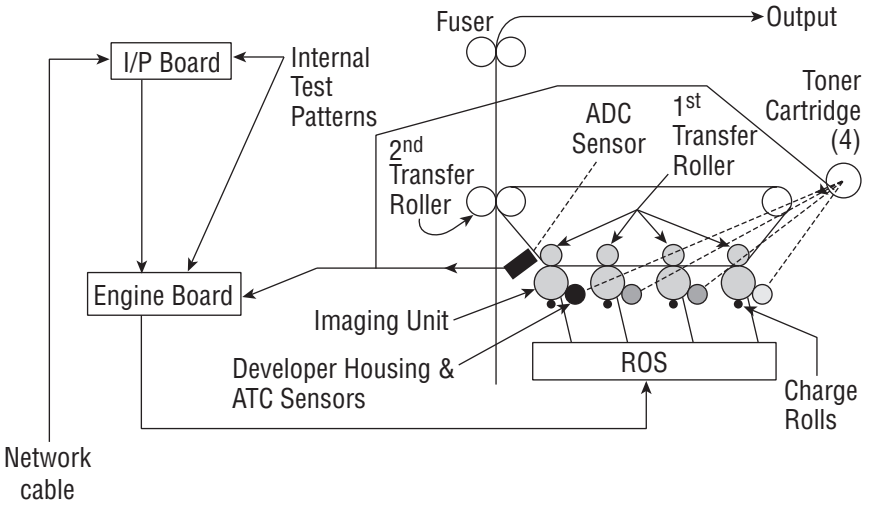
Note

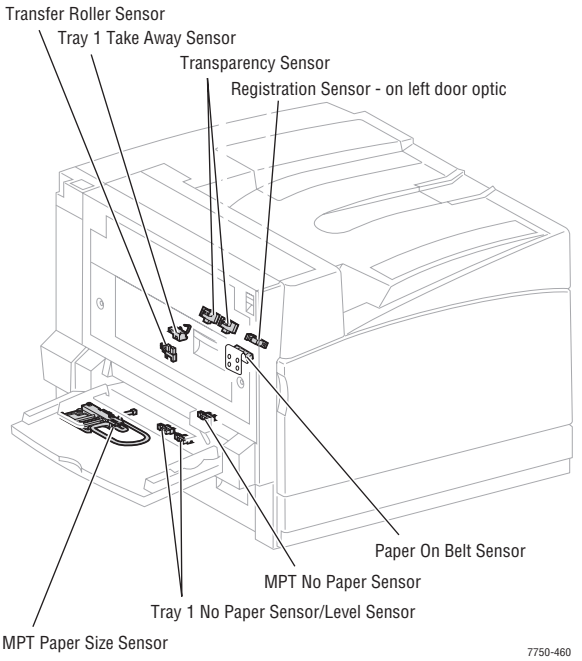
For machines with finishers, unplug the finisher from the Phaser 7750 printer prior to powering up. It will be necessary to have the finisher undocked to view the images on the belt.

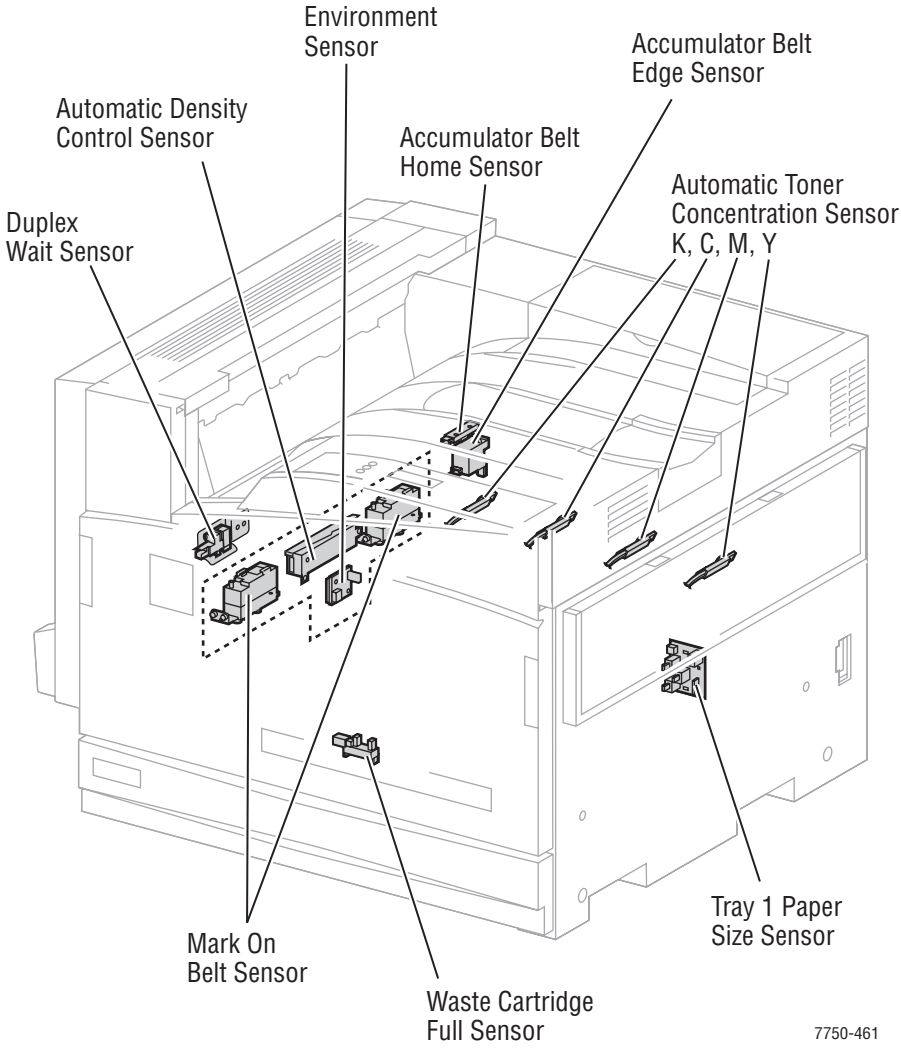
- As soon as the chevrons are visible, deactivate the right hand door interlock.

Sensors

Looking at the imaging path illustration below, note that there are two kinds of sensors that play an important role in the control of image quality for the printer.

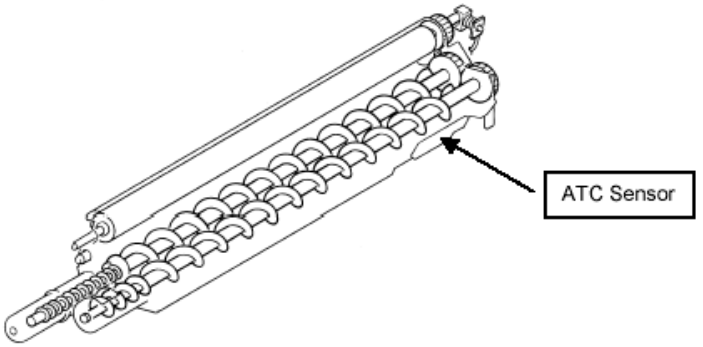



Transfer Roller Sensor
Tray 1 Take Away Sensor
Transparency Sensor
Registration Sensor - on left door optic
Paper On Belt Sensor
MPT No Paper Sensor
Tray 1 No Paper Sensor/Level Sensor
MPT Paper Size Sensor
7750-460


Environment
Sensor
Accumulator Belt
Edge Sensor
Automatic Density
Control Sensor
Accumulator Belt
Home Sensor
Automatic Toner
Concentration Sensor
K, C, M, Y
Duplex
Wait Sensor
Mark On
Belt Sensor
Waste Cartridge
Full Sensor
Tray 1 Paper
Size Sensor
7750-461

ATC Sensors

The ATC sensor is a part of the developer housing. It provides an indication of the concentration of toner relative to the carrier beads contained in the developer housing.



Generally speaking, higher concentrations of toner are more easily developed, because they have less triboelectric bond to the carrier beads. Lower concentrations have a higher attraction to the carrier beads, and therefore require higher charge to develop out.

The ATC sensor provides its information to the process controls.

The "Tone Up/Down" test in diagnostics compares a corrected target value to the ATC sensor value on each individual developer. If the corrected target value is within +/-30 of the sensor value then printer logic assumes toner concentration is correct. If the corrected target value is greater than 30 units above the sensor value, printer logic detects that the toner concentration is lighter than the target value and adds toner to the developer.

If the test values all equal the results shown below, the test has not detected any problems.

<Tone Up/Down>

Result = 0 Status = 0

ATC Sensor Fail = None

ATC Limit Warn = None

ATC Change Warn = None

If the ATC sensor fails, possible causes are:

- The sensor connection is bad, try reseating the connector.
- The sensor is defective.

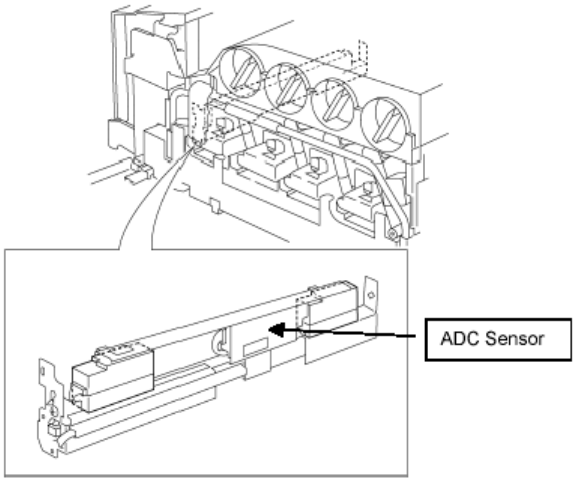
- There is a developer problem either with the housing or the amount of beads in the developer.

Tone Up/Down Messages	
Front Panel Message	**Typical Values**
[CMYK] Sens Warn	0
Pages = XX	Number of pages since last check
ATC Control = XXX	565
ATC Corr = XXX	604-606
Ave ATC = XXX	593-615
ATC Vol = XXX	320-428

ADC Sensor

The sensor in this figure is the Automatic Density Control (ADC) sensor. It is located on the MOB Sensor Assembly.

To control image quality, this sensor looks at patches that are developed onto the accumulator belt at various times.



Data from the ADC sensor is used to:

- Adjust the intensity of each laser in the ROS.
- Set the look up table for Tone Reproduction Curve (TRC).
- Determine amount of toner to add to developer (triggered by ATC sensor).

- Determine toner cartridge empty (triggered by ATC sensor).

2 patches per color are printed and ADC control is initiated at:

- Power-on, return from ENERGY STAR, after interlock close.
- End of each job.
- Within a job (every 80 pages at full speed, every 40 pages at half speed.

During normal operation, the ADC sensor reads the density of patches on the accumulator belt to ensure that the machine is providing its best output. Based on the readings of these patches, the concentration of toner in the developer housings can be changed or laser power adjusted.

For example, if the customer ran a large number of images that contained a high concentration of yellow, the yellow developer housing would become somewhat depleted of yellow toner.

The machine would first notice this depletion as a patch on the accumulator belt that is less dense than the specifications allow, and due to the ATC Sensor's indication.

In this situation, the machine would automatically *tone up*, adding more toner to the developer housing. The higher concentration of toner in the housing would then allow more toner to be developed out to the accumulator belt, and the patches would then start to become more dense. In this way, the system corrects itself when density becomes too low.

ADC Output Check

The ADC Sensor Assembly consists of 3 sensors that read values off the CMYK test patches. The "regular reflection", "diffusion" and "offset" sensors provide readings to the printer logic to determine if density is correct.

"ADC Output Check", in diagnostic mode, compares a target value in logic to the value seen by the individual sensors. If the value seen by the sensors is between -20 and +20 of the target value the printer density is correct.

If the test values shown below, displayed on the front panel, all equal zero, the test has detected no problems.

- Result = 0
- Stop Status = 0
- ADC Sensor Fail = 0
- ADC Shutter Fail = 0

If the "ADC Sensor Fail" test detects a problem, check the connector to the sensor. If the connector is OK, replace the sensor.

If the ADC Shutter Fail test detects a problem, check the connector and the shutter for a binding or out of position condition. If these actions do not resolve the problem, replace the MOB Assembly.

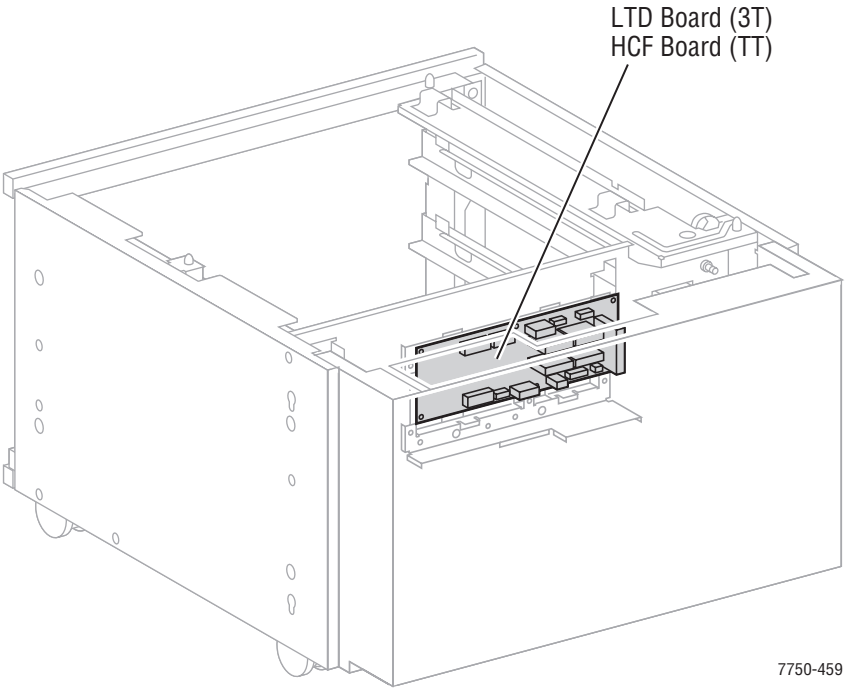
If the following values all equal none, the test has detected no problems

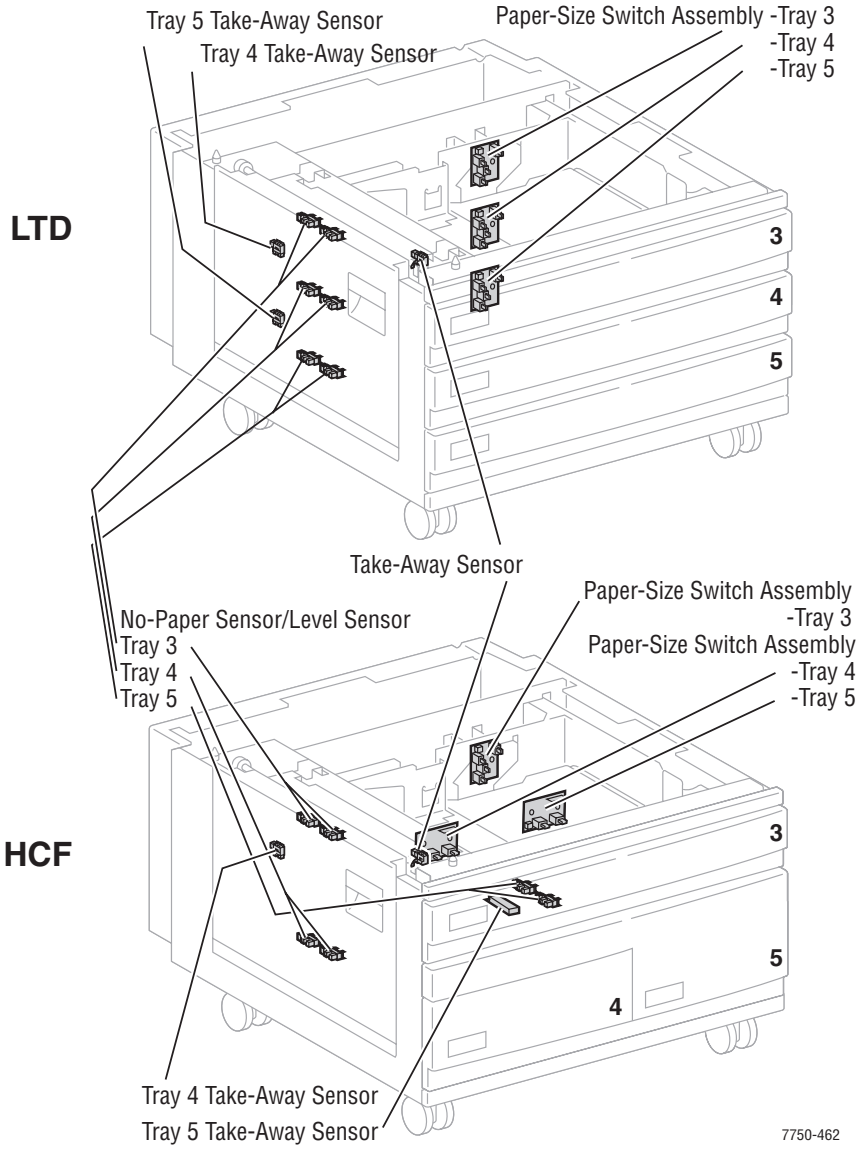
- LD Illum Warn = None
- ADC Patch Fail = None
- VBCR Warn = None
- V Bias Warn = None

If Ave RADC Trans is within +/-20 of RADC Target, then printer logic assumes the density is correct. Values on the front panel are:

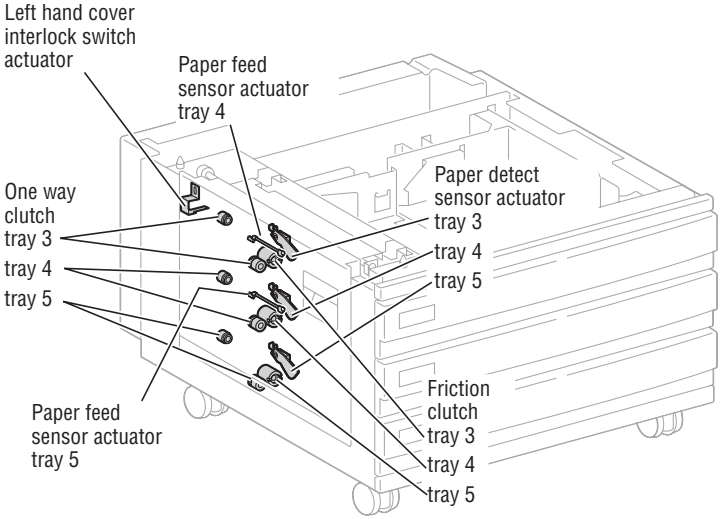
Front Panel Message	Typical Values
[YMCK] RADC Target = [XXX]	[YMC] 375-394 [K] 460
Ave RADC Trans = [within +/-20 of RADC Target]	[YMC] 369-393 [K] 467
Ideal LD Ill = [XXX]	[YMC] 335-361 [K] 394
V Bias = [XXX]	887
V BCR = 0	0

Lower Tray Feeders Sensor and Board Locations

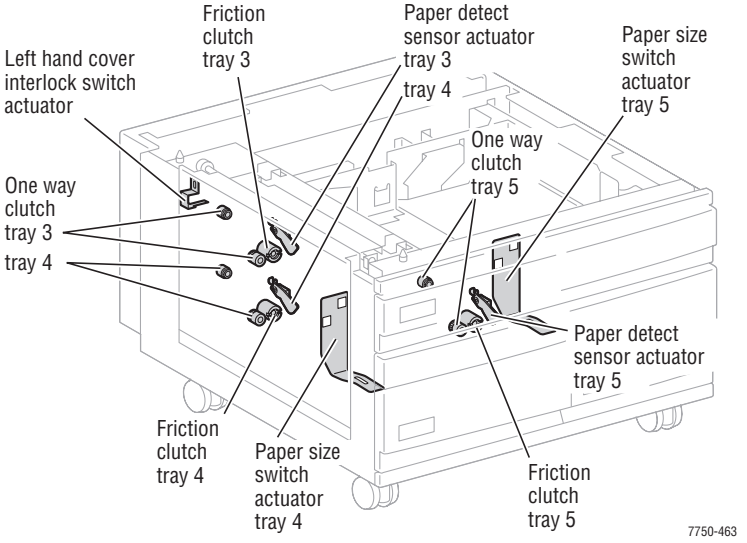



LTD
Tray 5 Take-Away Sensor
Tray 4 Take-Away Sensor
Paper-Size Switch Assembly -Tray 3
-Tray 4
-Tray 5
3
4
5
Take-Away Sensor
HCF
No-Paper Sensor/Level Sensor
Tray 3
Tray 4
Tray 5
Paper-Size Switch Assembly
-Tray 3
Paper-Size Switch Assembly
-Tray 4
-Tray 5
3
5
4
Tray 4 Take-Away Sensor
Tray 5 Take-Away Sensor
7750-462

LTD


Left hand cover interlock switch actuator
Paper feed sensor actuator tray 4
One way clutch tray 3
tray 4
tray 5
Paper detect sensor actuator tray 3
tray 4
tray 5
Friction clutch tray 3
tray 4
tray 5
Paper feed sensor actuator tray 5

HCF


Friction clutch tray 3
Paper detect sensor actuator tray 3
tray 4
Paper size switch actuator tray 5
Left hand cover interlock switch actuator
One way clutch tray 5
One way clutch tray 3
tray 4
Paper detect sensor actuator tray 5
Friction clutch tray 4
Paper size switch actuator tray 4
Friction clutch tray 5
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Error Messages and Codes

In this chapter...

- Introduction
- Overview for Troubleshooting Error Codes
- System Startup and POST
- Error Messages and Codes Index Table
- Error Messages and Codes Procedures

Chapter 3

Introduction

This section covers troubleshooting procedures for the Phaser 7750 printer front panel error messages and codes. Only jams and fatal errors will produce an associated numeric code. Error messages and codes are generally specific, making it important that service personnel and users record errors when reporting problems with the printer. Any code associated with an error message or jam can be viewed by pressing the **INFO** button and scrolling to the bottom of the help text displayed on the front panel.

Some procedures require performing service diagnostic tests to verify a specific printer part is operating correctly. For information on Service Diagnostics and all internal printer test functions, refer to "Service Diagnostics" on page 4-2.

To troubleshoot problems not associated with a front panel message or code, see "General Troubleshooting" on page 4-1.

When an error first occurs, record the error message and code then cycle power to the printer to see if the error recurs.

Always follow the safety measures detailed in the front of the manual when servicing the printer, see “Service Safety Summary” on page vii.

Accessing the Printer’s Error History

If an error message or code is not visible on the front panel, and the printer is still capable of printing, print one of the following pages from the printer’s front panel.

1. **Engine Error History**
   a. Go to **Troubleshooting ---> Service Tools --> Engine Error History** and press **OK**.
2. **Jam History**
   a. Go to **Troubleshooting ---> Service Tools --> Jam History** and press **OK**.
3. **Service Usage Profile -** For a definition of the numeric codes, see "Service Usage Profile Status Codes" on page A-5.
   a. Go to **Troubleshooting ---> Service Tools --> Service Usage Profile** and press **OK**.

If the Printer is Unable to Print

If the printer is connected to a network and has a TCP/IP address, view the printer’s web page using a web browser.

1. Open a web browser.
2. Enter the printer’s IP address as the URL.
3. Select the Troubleshoot link and the fault history displays.

Service Checklist

This checklist is an overview of the path a service technician should take to service the Phaser 7750 printer and it's options.

Step 1: Identify the Problem:

1. Verify the problem reported by the customer.
2. Check for any error codes and write them down.
3. If the printer is capable of printing, print normal customer prints and service test prints to:
   - Make note of any print-quality problems in the test prints.
   - Make note of any mechanical or electrical abnormalities present.
   - Make note of any unusual noise or smell coming from the printer while printing.
4. Print a "Usage Profile", if the printer is able to print and/or view the fault history under the Service Tools Menu.
5. Verify the AC input power supply is within proper specifications by measuring the voltage at the electric outlet while the printer is running.

Step 2: Inspect and Clean the Printer:

1. Switch OFF printer power and disconnect the AC power cord from the wall outlet.
2. Verify the power cord is free from damage and is connected properly.
3. Remove the Imaging Units and protect them from light.
4. Clean and inspect the printer interior and remove any foreign objects, dust or loose toner.
   Note: Use **only** a Toner Type II Vacuum.

   Do not use solvents or chemical cleaners.
   Do not use any type of oil or lubricant on printer parts.
   Do not use compressed air.
5. Clean all rubber rollers with a lint-free cloth, dampened slightly with cold water and mild detergent.
6. Inspect the interior of the printer for damaged wires, loose connections, toner leakage, and damaged or obviously worn parts.

Step 3: Find the Cause of the Problem:

1. Use the Error Messages and Codes troubleshooting procedures to find the cause of the problem if an error code is reported.
2. Use Service Diagnostics to check printer parts.
3. Use the Wiring Diagrams and Plug/Jack Locator to locate test points and to take voltage readings at various test points as instructed in the appropriate Troubleshooting procedure.

Step 4: Correct the Problem:

1. Use the Parts List to locate a part number.
2. Use the Removal and Replacement procedures to replace the part.

Step 5: Final Check:

1. Test the printer to be sure you have corrected the initial problem and there are no additional problems present.
2. Perform RIP procedures.

Service RIP (Every Call) Procedures

These procedures are to be used for every service call.

1. Print an error log then diagnose and repair any problems as indicated.
2. Print a “Usage Profile” report, then diagnose and repair any problems as indicated.
3. Check the cleanliness of the interior and exterior of the printer including fans. Clean (dust or vacuum) these areas.
4. Check the versions of Engine and Postscript software. As appropriate, install the latest version of software.
5. Inspect the fuser assembly and clean if necessary.
6. Inspect the MOB and ADC sensors, clean if necessary.
7. Inspect the accumulator belt home sensor, clean if necessary.
8. Clean feed rollers and exit rollers only when dust or debris is visible.
9. Clean the laser scanner windows.
10. Review the proper operation of the printer with the customer emphasizing calibrate for paper, color calibration and setting the paper type correctly.
11. Have the customer make enough prints to verify any repairs that were done.
12. Review with the customer all work that was done.

Overview for Troubleshooting Error Codes

Definition of the Chain-Link Codes

A chain-link is a numeric code represented as a pair with the chain first and the link second. The “chain” is a 2-digit identifier representing a major or higher level sub-assembly. The “link” is a 3-digit identifier representing a specific failure mode.

The chain-link is used to identify or address a specific component within the printer. The chain points to a counter or component assembly, and the link points to a specific item in that assembly.

All chain-link codes and their respective definitions can be found in the Appendix under "Missing Chain Link Codes Definitions" on page A-11.

Using the Troubleshooting Procedures

1. Each **Step** in a troubleshooting procedure instructs you to perform a certain action or test. The steps are to be followed in the order given until the problem is fixed or resolved.
2. The **Actions and Questions** box contains the procedures to perform and the resulting actions you must follow to isolate the problem.
   - When a procedure instructs you to test a component using service diagnostics, go to the "Service Diagnostic Tests Table" on page 4-3 for a detailed description for testing printer components.
   - Troubleshooting procedures may ask you to take voltage readings or test for continuity at certain test points within the printer. For detailed diagrams, see "Wiring Diagrams" on page 10-1 for complete information on test point locations and signal names.
3. The **Actions** are followed by a **Question**. If your response to the question is “**Yes**”, then follow the instructions for the “**Yes**” reply. If your response to the question is “**No**”, then follow the instructions for the “**No**” reply.
4. The problem will be isolated to an adjustment, calibration or a printer component that needs replacement, see the following chapters for more information.
   - Chapter 6 "Adjustments and Calibrations" on page 6-1.
   - Chapter 8 "Service Parts Disassembly" on page 8-1 provides detailed steps for removing and replacing all major parts of the printer.
   - Chapter 9, "Service Parts Lists" on page 9-1 details the location, quantity and part number for all spared parts of the printer.

General Notes on Troubleshooting

1. Unless indicated otherwise, the instruction “turn ON printer power” means for you to switch ON the printer power and let the printer proceed through POST to a ‘Ready’ condition.
2. When instructed to take resistance readings between “P/J 232 <=> P/J 210” (without specified pin numbers), check all pins. See "Wiring Diagrams" on page 10-1 for the location of all wiring harnesses and pins.
3. When you are instructed to take a voltage reading, the black probe (–) is generally connected to a pin that is either RTN (Return) or SG (Signal Ground). You can substitute any RTN pin or test point in the printer, and you can use FG (frame ground) in place of any SG pin or test point.
4. Before measuring voltages, make sure the printer is switched ON, the imaging units and the paper trays are in place, and the interlock switches are actuated, unless a troubleshooting procedure instructs otherwise. Before measuring continuity or resistance, make sure the printer is switch OFF.
5. All voltage values given in the troubleshooting procedures are approximate values. The main purpose of voltage readings is to determine whether or not a component is receiving the correct voltage value from the power supply and if gating (a voltage drop) occurs during component actuation.
6. When a troubleshooting procedure instructs you to replace a non-spared component and that component is part of a parent assembly, replace the entire parent assembly.

System Startup and POST

System Boot Sequence

1. When the main power switch is turned on, the ‘health’ LED on the image processor board turns on immediately.
2. The boot loader checks for RAM present and functional. If not, it posts a very large “RAM ERROR” on the front panel and blinks the LED 1/2 second on/off continuously.
3. The boot Loader then runs POST diagnostics.
4. POST turns off the health LED.
5. POST checks the front panel.
6. If buttons have been pushed, the front panel displays “Processing Input”.
7. The front panel LED cycles: Green, Yellow, Red, and then off.
8. The front panel turns on, the LED turns Green, and the POST tests are run.

Power On Self Test (POST)

The following tests are performed when the printer is powered on, after the boot loader runs, and before the operating system is loaded and initialized.

POST diagnostics are intended to provide a quick means of isolating a defective subsystem associated with the image processor board and SDRAM. POST returns control to the boot loader and the operating system is loaded. The operating system then loads the imaging processing software. If POST detected any soft errors, a message is printed in a red box on the start page. If POST detects any hard errors, both the front panel and ‘health’ LED blink the error code pattern, see "POST Fault Reporting LED Blink Patterns" on page 3-8.

POST Startup indications

- At power-on the hardware default is to turn on the IP board ‘health’ LED.
- The image processor board ‘health’ LED is turned off.
- The front panel display is reset (addressable area becomes “gray”).
- The Green LED turns on for 1/3 second.
- The Yellow LED turns on for 1/3 second.
- The Red LED turns on for 1/3 second.
- The front panel LED is turned off.
- The backlight is turned on (high intensity), with nominal contrast display.
- The front panel display area is turned on, dark black for 1 second.

- The front panel display is cleared.
- The backlight is turned on with nominal intensity.
- The POST Vn.nn message appears, and tests are quickly executed.
- If any tests fail, the front panel screen freezes with the name of the test displayed and the line posted is “Call Customer Service”.
- After the POST tests have finished running, the Xerox ‘splash screen’ is posted to the front panel and PostScript begins initialization.

POST Faults

There are two kinds of faults: soft and hard.

A soft fault is any fault that is discovered by POST, but does not prevent the operating system from initializing and becoming available as a tool for troubleshooting. These POST faults do not stop execution and are reported on the StartPage in a red box after the system is running.

A hard fault is any fault discovered by POST that prevents the operating system from initializing successfully. A hard fault prevents the system from further execution and is halted with blinking LEDs (front panel and health LED). The test name of the test that failed is displayed on the front panel.

Hard Fault Reporting Devices

- The health LED flashes according to the fault code.
- A Vx Works text string is printed out the serial port.
- The front panel LED flashes in unison with the health LED.
- The last fault message posted to the front panel is present.

Note

All soft faults are printed on the Startup Page.

POST Fault Reporting LED Blink Patterns

For faults identified as hard faults, the POST firmware causes the PS ‘health’ LED and front panel LED, to blink in a particular pattern to identify the fault. There are short and long blinks. A long blink is worth 5 and a short blink is worth 1. If a fault blink pattern is flashed as long, long, short, short, this is fault code 5+5+1+1=12, which indicates a failure in the CPU interrupt test.

The exception to the above pattern is a RAM test error. The RAM tests have a special blink pattern and the front panel displays “RAM Error”. During power up the front panel LED is on. If the RAM tests fail, the image processor board ‘health’ LED is turned off, and the front panel LED is red. At 1/2-second intervals, the ‘health’ LED and the front panel LED toggle continuously.

POST Diagnostic Test Descriptions

Test	Fault Type	Fault Code	Description
SDRAM	Hard	1	This test fails if the boot loader finds no RAM present or faulty RAM. Boot loader posts the message “RAM error” to the front panel and blinks the front panel LED and IP Board health LED.
Local Bus/ Front Panel	Hard	2	Performed during the POST firmware initialization phase. If the front panel is unplugged, a hard fault is indicated by the heath LED.
I/O ASIC	Hard	3	This test determines if the I/O chip is functioning properly.
MEM	Hard	4	This test determines if the memory access function works at selected addresses
Configuration Chip	Hard	5	This test checks to see if the configuration chip is present. If no chip is present the test fails and the front panel message “Please Install configuration chip displays.
EEPROM	Hard	10	This test checks addressing of the EEPROM.
Ethernet	Hard	11	This test checks the ethernet core.
CPU Interrupts	Hard	12	This test checks that each interrupt source to the CPU is functioning.
USB	Hard	13	This test checks that the USB core is functioning properly.
Real Time Clock	Soft	14	The real time clock is tested.
RAM DIMM Presence	Soft	15	This test examines bad or incompatible RAM DIMMs.
Min RAM Limits	Soft	16	Checks that there is at least 128 MB installed and ignores more than 512 MB.
Max RAM Limits	Soft	17	Checks to ensure no more than 1 GB of RAM is installed.
IDE Disk	Soft	20	Checks the disk controller core, and runs a DIAGNOSE command on the hard drive.
CPU Fan	Hard	24	Checks hardware to see if a failure of the CPU cooling fan has occurred.
Cage Fan	Hard	25	Checks hardware to see if a failure of the electronics cooling fan has occurred.

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Laser Unit Failure, Code 10
Laser Unit Polygon Motor Failure, Code 11

Note

If this failure reoccurs three times successively, an Engine NVRAM value is set preventing further printer use until the Clear Tech Rep Fault (see pg. 6-20) is performed.

Applicable Parts	Wiring and Plug/Jack Map Diagrams
■ Laser Assembly	■
■ Engine Control Board	■

Troubleshooting Procedure

Step	Actions and Questions	Yes	No
1	1. Remove the rear cover from the printer. 2. Disconnect P401 and P402 from the Engine Control Board. 3. Carefully reinsert the plugs into their joint socket and FIRMLY seat them. 4. Did this fix the problem?	Complete.	Replace the laser unit. (You must perform the RegiCon Adjustment after replacing the laser unit.) If the problem persists, replace the engine control board.

Yellow ATC Sensor Failure, Code 12
Magenta ATC Sensor Failure, Code 13
Cyan ATC Sensor Failure, Code 14

The ATC Sensor detects an insufficient amount of developer.

Note

If this failure reoccurs three times successively, an Engine NVRAM value is set preventing further printer use until the Clear Tech Rep Fault (see pg. 6-20) is performed.

Applicable Parts	Wiring and Plug/Jack Map Diagrams
■ ATC Sensor and Harness	■
■ Engine Control Board	■

Troubleshooting Procedure

Step	Actions and Questions	Yes	No
1	Is the problem toner and/or developer empty.	Replace the toner or developer.	Go to step 2.
2	Is the ATC sensor clean and free of dust, toner or any other contaminates?	Go to step 3.	Clean the ATC sensor.
3	1. Check the ATC sensor wiring harness Yellow = P/J129 Magenta = P/J 130 Cyan = P/J 131 2. Is the wiring harness or the sensor defective?	Replace the ATC Sensor and/or wiring harness.	Go to step 4.
4	1. Remove the Rear Cover and Rear Shield. 2. Measure the voltage at... Yellow = P405B3 Magenta = P405B8 Cyan = P405A10 on the engine control board. 3. Is the voltage between +1 and +3 VDC?	Replace the engine control board.	Go to step 5.
5	1. Measure the voltage at... Yellow = P405B14 Magenta = P405B11 Cyan = P405A11 on the engine control board. 2. Is the voltage +5 VDC?	Replace the engine control board.	Go to step 6.

Step	Actions and Questions	Yes	No
6	1. Measure the voltage at... Yellow = P405B2 Magenta = P405B9 Cyan = P405A9 on the engine control board. 2. Is the voltage 0 VDC?	Replace the engine control board.	Go to step 7.
7	1. Remove the Imaging Unit Plate cover. 2. Inspect the wiring harness between the engine control board and the developer housing assembly. 3. Is the wiring harness defective?	Replace the wiring harness.	Replace the ATC Sensor.
8	Run approximately 10 pages of the solid fill full-page prints for this color to ensure the error is cleared.		

Black ATC Sensor Failure, Code 15

The ATC Sensor detects an insufficient amount of developer.

Note

If this failure reoccurs three times successively, an Engine NVRAM value is set preventing further printer use until the Clear Tech Rep Fault (see pg. 6-20) is performed.

If this error is intermittant, replace the black developer clutch.

Troubleshooting References

Applicable Parts	Wiring and Plug/Jack Map References
■ ATC Sensor and Harness ■ Engine Control Board	

Troubleshooting Procedure

Step	Actions and Questions	Yes	No
1	Is the black toner and/or developer empty?	Replace the toner or developer.	Go to step 2.
2	Is the ATC sensor clean and free of dust, toner or any other contaminates?	Go to step 3.	Clean the ATC sensor.
3	1. Check the ATC sensor wiring harness (P/J132). 2. Is the wiring harness or the sensor defective?	Replace the ATC Sensor and/or wiring harness.	Go to step 4.
4	1. Remove the rear cover and rear shield. 2. Measure the voltage at P405A3 on the engine control board. 3. Is the voltage between +1 and +3 VDC?	Go to step 5.	Replace the engine control board.
5	1. Measure the voltage at P405A4 on the engine control board. 2. Is the voltage +5 VDC?	Go to step 6.	Replace the engine control board.
6	1. Measure the voltage at P405A2 on the engine control board. 2. Is the voltage 0 VDC?	Go to step 7.	Replace the engine control board.

Step	Actions and Questions	Yes	No
7	1. Remove the imaging unit plate cover. 2. Inspect the wiring harness between the engine control board and the developer housing assembly. 3. Is the wiring harness defective?	Replace the wiring harness.	Replace the ATC sensor.
8	Run approximately 10 pages of the solid fill full-page prints for this color to ensure the error is cleared.		

Transfer Roller Contact Failure, Code 20
Transfer Roller Retract Failure, Code 21

The Transfer Roller did not meet the contact position, or the Transfer Roller did not reach the retract position.

Troubleshooting References

Applicable Parts	Wiring and Plug/Jack Map References
■ Left Door ■ Retract Home Sensor ■ Engine Control Board	

Troubleshooting Procedure

Step	Actions and Questions	Yes	No
1	1. Enter service diagnostics and run the 2nd BTR Motor test. 2. Does the motor operate correctly?	Go to step 2.	Go to step 5.
2	1. Clean the 2nd BTR retract sensor. 2. Does the error still occur?	Go to step 3.	Complete.
3	1. Use service diagnostics transmissive sensor test. 2. Does the sensor operate correctly?	Go to step 4.	Replace the sensor or left hand door assembly.
4	1. Check the transfer roller transmission gears for damage. 2. Are the gears damaged?	Replace the left hand door assembly.	Go to step 6.
5	1. Remove the left-hand rear mid cover. 2. Inspect the left-hand cover assembly wiring harness for damage and ensure the connectors are all properly seated. 3. Is the wiring harness damaged?	Replace the left-hand cover assembly.	Go to step 6.
6	1. Remove the rear cover and rear shield. 2. Reconnect power and enter service diagnostics. 3. Measure the voltage at the engine control board J533B9 while running the 2nd BTR Motor test several times. 4. Does the voltage toggle between +5 VDC and 0 VDC when the test is running?	Replace the engine control board.	Replace the transfer roller retract sensor.

1st BTR Contact or Retract Failure

Troubleshooting References

Applicable Parts	Wiring and Plug/Jack Map References
■ Retract Sensor and Harness ■ Accumulator Belt Assembly	

Troubleshooting Procedure

Step	Actions and Questions	Yes	No
1	Is the retract sensor or actuator damaged or out of position?	Repair or reseat the sensor.	Go to step 2.
2	1. Run the 1st BTR motor contact/retract test in diagnostics. 2. Do the 1st BTRs contact and retract?	Replace the accumulator belt assembly.	Go to step 3.
3	1. Run the 1st BTR retract sensor test. 2. Does the status change between H and L?	Go to the transmissive sensor procedure.	Replace the accumulator belt assembly.

Accumulator Belt Home Position Took Too Long, Code 30
Accumulator Belt Home Position Failure, Code 31

The accumulator belt home sensor did not detect the belt home signal.

Note

If this failure reoccurs three times successively, an Engine NVRAM value is set preventing further printer use until the Clear Tech Rep Fault (see pg. 6-20) is performed.

Troubleshooting References

Applicable Parts	Wiring and Plug/Jack Map References
■ Belt Cleaner ■ Accumulator Belt Motor ■ Waste Toner ■ Auger Assembly ■ Interface board ■ Engine Control Board	

Caution

If the accumulator belt is damaged, determine the cause of the damage before installing a new assembly.

- Visually inspect the accumulator belt area inside the printer and inside the left hand door for foreign objects or damaged parts.
- Inspect the belt steering mechanism to determine if it is operable.
- It may be necessary to query the user for additional information as to likely causes.

Troubleshooting Procedure

Step	Actions and Questions	Yes	No
1	Have the accumulator belt shipping restraints been completely removed?	Go to step 2.	Remove the restraints.

Step	Actions and Questions	Yes	No
2	1. Enter service diagnostics and run the Clear Tech Rep Fault (see pg. 6-20) 04-346 procedure. 2. Enter the Adjustments/Calibrations menu and run the Belt Edge Learn Test with the right hand door open and the door interlock held actuated. 3. Does the accumulator belt rotate during the test?	Go to step 3.	Go to step 6.
3	1. Remove the accumulator belt assembly. Caution: Removing the accumulator belt assembly allows light into the imaging unit area, avoid exposing the imaging units to light. 2. Is the belt home marker present? This is a 7 mm, square, silver patch on the rear edge, inside the belt. Rotate the belt if you cannot see the marker.	Go to step 4.	Replace the accumulator belt assembly.
4	1. On the accumulater belt assembly, rotate the belt drive gear in the normal process direction until the belt home marker is positioned beneath the belt home sensor. 2. Reinstall the belt assembly. 3. Enter service diagnostics and run the Accum MOB Sensor test. 4. Is “MOB sensor is H” displayed?	Replace in the following order: ■ engine control interface board ■ engine control board	Go to step 5.
5	1. Replace the accumulator belt assembly. 2. Retest. 3. Does error 30 return?	Troubleshoot and repair using the Reflective Sensor Procedure on pg. 3-45.	Complete.
6	1. Partially remove the accumulator belt assembly. 2. Manually rotate the drive gear clockwise. 3. Does the belt turn freely?	Go to step 14.	Go to step 7.
7	1. Inspect the a.ccumulator belt cleaner and waste auger for packed toner. 2. Are the belt cleaner and auger clean and free of toner? 3. Do the gears rotate freely?	Go to step 9.	Go to step 8.

Step	Actions and Questions	Yes	No
8	1. Using a Type II Toner Vacuum, vacuum out the belt cleaner and waste auger. 2. Is the actuating lever broken off of the belt cleaner toner gate?	Replace the belt cleaner assembly.	Go to step 9.
9	1. Remove the waste toner cartridge. 2. Enter service diagnostics and run the Agitator Motor test. 3. Does the motor operate correctly?	Verify the waste toner cartridge is fully seated. Complete.	Go to step 10.
10	1. Check the voltage at J532A16 on the harness. 2. Is the voltage +24 VDC?	Go to step 12.	Go to step 11.
11	1. Check the voltage at J43-12 on the harness. 2. Is the voltage +24 VDC?	Replace the engine control board.	Go to step 13.
12	1. Check the voltage at J532A17 on the harness. 2. Is the voltage +24 VDC?	Replace the engine control board.	Replace the waste toner agitator motor.
13	Is +24 VDC present at the low-voltage power supply board?	Troubleshoot the wiring between the +24 VDC LVPS and the Engine Control Board.	See "Troubleshooting the Low-Voltage Power Supplies" on page 4-17.
14	1. Remove the accumulator belt assembly. 2. Enter Service Diagnostics and run the Accum Belt Motor test. 3. Does the motor turn?	Diagnose and repair the mechanical condition binding the accumulator belt assembly.	Since the accumulator belt drive motor is a servo motor, there are no voltage checks. This failure can be caused by 1 of 3 components. Replace and test in the following order: ■ motor ■ interface board ■ engine control board

Accumulator Belt Edge Sensor Failure, Code 32
Accumulator Belt Drive Logic Failure, Code 34

Troubleshooting References

Applicable Parts	Wiring and Plug/Jack Map References
■ Accumulator Belt Assembly ■ Engine Interface Board ■ Engine Control Board	

Caution

If the Accumulator Belt is damaged, determine the cause of the damage before installing a new assembly.

Troubleshooting Procedure

Step	Actions and Questions	Yes	No
1	1. Remove the accumulator belt assembly. 2. Inspect the connector for damage. 3. Is the connector damaged?	Replace the accumulator belt assembly.	Go to step 2.
2	Is the edge sensor actuator touching the belt?	Replace the accumulator belt assembly.	Go to step 3.
3	1. Is the mating connector inside the printer damaged?	Repair or replace the wiring harness between the connector and J605.	Go to step 4.
4	1. Reinstall the accumulator belt assembly. 2. Enter service diagnostics and run the Belt Edge Sensor test. 3. Is the result OK?	Go to step 5.	Run the Belt Edge Learn and recheck. If it still fails go to step 8.
5	1. Switch printer power ON. 2. Remove the rear cover and shield. 3. Measure the voltage between the engine control interface board and J533A11(+) and frame ground. 4. Does the voltage measure between +1 to +3 VDC?	Go to step 8.	Go to step 6.

Troubleshooting Procedure (Continued)

Step	Actions and Questions	Yes	No
6	1. Measure the voltage between the engine control interface board and J533A-9 and frame ground. 2. Does the voltage measure +5 VDC?	Go to step 7.	Replace in the following order: ■ engine control interface board ■ engine control board
7	1. Measure the voltage between the engine control interface board and J533A-10 and frame ground. 2. Does the voltage measure +5 VDC?	Replace in the following order: ■ engine control interface board ■ engine control board	The edge sensor is defective, replace the accumulator belt assembly.
8	1. Remove the accumulator belt assembly. 2. Enter service diagnostics and run the Steering Motor test. 3. Does the motor turn?	Replace the accumulator belt assembly. If the problem is unresolved replace the engine control board.	Go to step 9.
9	1. Measure the voltage between the engine control interface board J550-5 and frame ground. 2. Is the voltage +24 VDC?	Go to step 10.	Replace in the following order: ■ engine control interface board ■ engine control board
10	1. Measure the voltage between the engine control interface board J550 Pins 1, 2, 3, 4 and frame ground. 2. Is the voltage +24 VDC?	Replace in the following order: ■ engine control interface board ■ engine control board	Replace the steering drive assembly.

Unexpected Accumulator Belt Home Sensor Signal, Code 33

Troubleshooting References

Applicable Parts	Wiring and Plug/Jack Map References
■ Accumulator Belt Assembly ■ Engine Control Interface Board ■ Engine Control Board	

Caution

If the Accumulator Belt is damaged, determine the cause of the damage before installing a new assembly.

Troubleshooting Procedure

Step	Actions and Questions	Yes	No
1	1. Remove the accumulator belt assembly. 2. Inspect the DTS connector for damage. 3. Is the connector damaged?	Replace the accumulator belt assembly.	Go to step 2.
2	1. Is the mating connector inside the printer damaged?	Repair or replace the wiring harness between J605 and the connector.	Go to step 3.
3	1. Reinstall the accumulator belt assembly. 2. Enter service diagnostics and run the Accum MOB Sensor test. 3. Is the value H when the belt home marker is **NOT** under the belt home sensor?	Use the "Reflective Sensor Procedure" on page 3-45.	Replace in the following order: ■ engine control interface board ■ engine control board

Fuser Main Lamp Failure, Code 35

The lamp control circuit has failed resulting in the front thermistor detecting an overheat condition.

Note

If this failure reoccurs three times successively, an Engine NVRAM value is set preventing further printer use until the Clear Tech Rep Fault (see pg. 6-20) is performed.

Troubleshooting References

Applicable Parts	Wiring and Plug/Jack Map References
■ Fuser ■ Engine Control Board	

Troubleshooting Procedure

Step	Actions and Questions	Yes	No
1	1. Turn OFF power and remove the fuser assembly and allow it to cool down. 2. Measure the resistance between the Fuser connector P600-4 and P600-6. 3. Does the resistance measure between 30 K and 190 K Ohms?	Go to step 2.	Replace the fuser assembly.
2	1. Reinstall the fuser assembly. 2. Enter service diagnostics. 3. From the Sensor Tests run the Fuser Temperature test. 4. Is the temperature indicated approximately 165^{o} C?	Go to step 4.	Go to step 3.
3	1. Turn OFF printer power. 2. Measure the resistance between J641- 2 and J641-3 on the Engine Control Board. 3. Does the resistance measure between 30 K and 190 K Ohms?	Go to step 4.	Repair or replace the wiring harness.
4	1. Turn printer power back ON. 2. Is there ~+3.4 VDC between J590-5 and ground?	Check the AC wiring harness to the fuser. If the check is OK, replace the AC drive assembly.	Replace the engine control board.

Install or Reseat Fuser, Code 41

Front thermistor open error. This is a cold condition.

Note

If this failure reoccurs three times successively, an Engine NVRAM value is set preventing further printer use until the Clear Tech Rep Fault (see pg. 6-20) is performed.

Troubleshooting References

Applicable Parts	Wiring and Plug/Jack Map References
■ Fuser ■ Engine Control Board	

Troubleshooting Procedure

Step	Actions and Questions	Yes	No
1	1. Turn OFF power and remove the Fuser Assembly. 2. Measure the resistance between the fuser connector P600-4 and P600-6. 3. Does the resistance measure between 30 K and 190 K Ohms?	Go to step 2.	Replace the fuser assembly.
2	1. Reinstall the fuser assembly. 2. Enter service diagnostics. 3. From the Sensor Tests run the Fuser Temperature test. 4. Is the temperature indicated approximately 165^{o} C?	Replace the engine control board.	Go to step 3.
3	1. Turn OFF printer power. 2. Check for an open circuit or poor connection between J600-4 to J600-6 to J404A-2. 3. Is the wiring OK?	Replace the engine control board.	Repair or replace the wiring harness.

Fuser STS (Front) Warm Time Failure, Code 42

Main heater warm-up error. The temperature did not reach the “Ready” temperature within the specified time.

Fuser SSR1 On Time Failure, Code 43

The main heater remained ON for more than the specified time.

Troubleshooting References

Applicable Parts	Wiring and Plug/Jack Map References
■ Fuser ■ Engine Control Board	

Troubleshooting Procedure

Step	Actions and Questions	Yes	No
1	1. Turn OFF power, remove the Fuser Assembly and allow it to cool down. 2. Measure the resistance between the Fuser connector P600-4 and P600-6. 3. Does the resistance measure between 30 K and 190 K Ohms?	Go to step 2.	Replace the fuser assembly.
2	1. Measure the resistance between fuser connector P600-1 and P600-12. 2. Does the resistance measure 20 Ohms or less?	Go to step 3.	Replace the fuser assembly.
3	1. Reinstall the fuser assembly. 2. Enter service diagnostics. 3. From the Sensor Tests run the Fuser Temperature test. 4. Is the temperature indicated approximately 165^{o} C?	Go to step 5.	Go to step 4.
4	1. Turn OFF the printer power. 2. Check for an open circuit or poor connection between J641-2 and J404A-2. 3. Is the wiring OK?	Replace the engine control board.	Repair or replace the wiring harness.

Step	Actions and Questions	Yes	No
5	Is the line voltage present at FS41 on the AC Drive Board?	Go to step 6.	Go to step 7.
6	1. Check the wiring harness between FS41 and J600-1 for an open circuit or poor connection. 2. Is the wiring harness OK?	Replace the fuser assembly.	Replace the AC power chassis assembly.
7	Check for +5 VDC at P/J 590-5 on the AC Drive Board.	Go to step 8.	Replace the engine control board.
8	Check for +24 VDC at P/J 590-1 on the AC Drive Board.	Replace the AC power chassis assembly.	Replace the fuser assembly.

Fuser Sub Lamp Overheat Failure, Code 44

The front thermistor has detected an overheat condition.

Note

If this failure reoccurs three times successively, an Engine NVRAM value is set preventing further printer use until the Clear Tech Rep Fault (see pg. 6-20) is performed.

Troubleshooting References

Applicable Parts	Wiring and Plug/Jack Map References
■ Fuser ■ Engine Control Board	

Troubleshooting Procedure

Step	Actions and Questions	Yes	No
1	1. Turn OFF power, remove the fuser assembly and allow it to cool down. 2. Measure the resistance between the Fuser connector P600-7 and P600-9. 3. Does the resistance measure between 30 K and 190 K Ohms?	Go to step 2.	Replace the fuser assembly.
2	1. Reinstall the fuser assembly. 2. Enter service diagnostics. 3. From the Sensor Tests run the Fuser Temperature test. 4. Is the temperature indicated approximately 165^{o} C?	Go to step 4.	Go to step 3.
3	1. Turn OFF printer power. 2. Measure the resistance between J641-4 and J641-5 on the engine control board. 3. Does the resistance measure between 30 K and 190 K Ohms?	Go to step 4.	Repair or replace the wiring harness.
4	1. Turn printer power back ON. 2. Is there ~+3.4 VDC between J590-3 and ground?	Check the AC wiring harness to the fuser. If the check is OK, replace the AC drive assembly.	Replace the engine control board.

Fuser STS (Rear) Failure, Code 45

Rear Thermistor open error. The machine logic detected an open circuit in the rear thermistor.

Troubleshooting References

Applicable Parts	Wiring and Plug/Jack Map References
■ Fuser ■ Engine Control Board	

Troubleshooting Procedure

Step	Actions and Questions	Yes	No
1	1. Turn OFF power, remove the fuser assembly and allow it to cool down. 2. Measure the resistance between the Fuser connector P600-7 and P600-9. 3. Does the resistance measure between 30 K and 190 K Ohms?	Go to step 2.	Replace the fuser assembly.
2	1. Reinstall the fuser assembly. 2. Enter service diagnostics. 3. From the Sensor Tests run the Fuser Temperature test. 4. Is the temperature indicated approximately 165^{o} C?	Replace the engine control board.	Go to step 3.
3	1. Turn printer power OFF. 2. Check for an open circuit or poor connection between J641-4 and J641-5. 3. Is the wiring harness OK?	Replace the engine control board.	Repair or replace the wiring harness.

Fuser STS (Rear) Warm Time Failure, Code 46

Sub-heater warm-up error. The temperature did not reach “Ready” temperature within the specified time.

Fuser SSR2 On Time Failure, Code 47

The Sub-heater remained ON for more than the specified time.

Troubleshooting References

Applicable Parts	Wiring and Plug/Jack Map References
■ Fuser ■ Engine Control Board	

Troubleshooting Procedure

Step	Actions and Questions	Yes	No
1	1. Turn OFF power, remove the fuser assembly and allow it to cool down. 2. Measure the resistance between the Fuser connector P600-7 and P600-9. 3. Does the resistance measure between 30 K and 190 K Ohms?	Go to step 2.	Replace the fuser assembly.
2	1. Measure the resistance between fuser connector P600-3 and P600-12. 2. Does the resistance measure 20 Ohms or less?	Go to step 3.	Replace the fuser assembly.
3	1. Reinstall the fuser assembly. 2. Enter service diagnostics. 3. From the Sensor Tests run the Fuser Temperature test. 4. Is the temperature indicated approximately 165^{o} C?	Go to step 5.	Go to step 4.
4	1. Turn printer power OFF. 2. Check for an open circuit or poor connection between J641-4 and J641-5. 3. Is the wiring harness OK?	Replace the engine control board.	Repair or replace the wiring harness.

Step	Actions and Questions	Yes	No
5	1. Is line voltage present at FS47 on the AC drive board?	Go to step 6.	Go to step 7.
6	1. Check the wiring harness between FS47 and J600-1 for an open circuit or poor connection. 2. Is the wiring harness OK?	Replace the fuser assembly.	Replace the AC power chassis assembly.
7	1. Check for +5 VDC at P/J 590-3 on the AC drive board.	Go to step 8.	Replace the engine control board.
8	1. Check for +24 VDC at P/J 590-1 on the AC drive board.	Replace the AC power chassis assembly.	Replace the fuser assembly.

Fan Failure, Code 48

The machine logic detected a failure of the Fuser fan, LVPS fan, or rear fan.

Troubleshooting References

Applicable Parts	Wiring and Plug/Jack Map References
■ Fuser Fan ■ LVPS Fan ■ Rear Fan	

Troubleshooting Procedure

Step	Actions and Questions	Yes	No
1	1. Enter service diagnostics and run the fan test. 2. Does the fuser fan rotate at a high speed?	Go to step 4.	Go to step 2.
2	1. Check for voltage at J222-4. 2. Does the voltage measure +24 VDC?	Go to step 3.	Check the wiring to the fuser fan, if the wiring is OK, replace the engine control board.
3	Does the front panel indicate the fans are ON?	Replace the fan.	Check the wiring to the fuser fan, if the wiring is OK, replace the engine control board.
4	Does the rear fan revolve at high speed?	Go to step 7.	Go to step 5.
5	1. Check for voltage at J552-1. 2. Does the voltage measure +24 VDC?	Go to step 6.	Check the wiring to the rear fan, if the wiring is OK replace the interface board. If the problem continues, replace the engine control board.

Step	Actions and Questions	Yes	No
6	Does the front panel indicate the fans are ON?	Replace the rear fan.	Check the wiring tot he rear fan, if the wiring is OK, replace the engine control board.
7	Does the LVPS fan revolve at high speed?	The fans are operating correctly. If the problem persists, replace the engine control board.	Go to step 8.
8	1. Check for voltage at J214-4. 2. Is +24 VDC present?	Go to step 9.	Check the wiring to the LVPS fan, if the wiring is OK, replace the engine control board.
9	Does the front panel indicate the fans are ON?	Replace the LVPS assembly.	Check the wiring to the LVPS fan, if the wiring is OK, replace the engine control board.

Imaging Unit Motor Failure, Code 60

Troubleshooting References

Applicable Parts	Wiring and Plug/Jack Map References
■ Imaging Unit Drive Motor ■ Engine Control Board	

Troubleshooting Procedure

Step	Actions and Questions	Yes	No
1	1. Enter service diagnostics and run the Imaging Unit Motor test. 2. Does the motor operate correctly?	Go to step 7.	Go to step 2.
2	1. Is the voltage at J210-5 +5 VDC?	Go to step 3.	Replace the engine control board.
3	1. Is the voltage at J210-7 +24 VDC?	Go to step 4.	Use the +24 VDC wirenets to troubleshoot and resolve the missing voltage.
4	1. Enter service diagnostics. 2. While running the Imaging Unit Motor test, check the voltage at J210-1 and J210-2. 3. Is the voltage 0 VDC while the test is running?	Go to step 5.	Replace the engine control board.
5	Is the frequency between J210-4 and ground between 1 KHz and 1.3 KHz?	Replace the imaging unit drive motor.	Go to step 6.
6	1. Check for a short to ground at J210-4. 2. Is the wire grounded?	Repair or replace the wiring harness.	Replace the engine control board.
7	1. Enter service diagnostics. 2. While running the Imaging Unit Motor test, check the voltage at J210-9. 3. Is the voltage +5 VDC while the test is running?	Replace the imaging unit drive motor.	Replace the engine control board.

Imaging Unit [1] [2] [3] [4] Communications Failure, Code 70, 71, 72, 73

Troubleshooting References

Applicable Parts	Wiring and Plug/Jack Map References
■ Imaging Unit ■ Imaging Unit Plate Assembly	

Troubleshooting Procedure

Step	Actions and Questions	Yes	No
1	1. Replace the imaging unit reporting the error. 2. Does the error still appear?	Go to step 2.	Complete.
2	1. Remove the imaging unit from the problem location and inspect the connector. 2. Is the connector damaged?	Replace the imaging unit plate assembly.	Troubleshoot the wiring. If wiring is OK, replace the engine control board.

Black Imaging Unit Motor Failure

Troubleshooting References

Applicable Parts	Wiring and Plug/Jack Map References
■ Imaging Unit Motor ■ Engine Control Interface Board ■ Engine Control Board	

Troubleshooting Procedure

Step	Actions and Questions	Yes	No
1	Run the Black Imaging Unit Motor test from diagnostics. Does the motor operate correctly?	Go to step 7.	Go to step 2.
2	Is the voltage at J235-4 +5 VDC?	Go to step 3.	Use wirenet 8.2 to troubleshoot the missing +5 VDC.
3	Is the voltage at J235-1 +24 VDC?	Go to step 4.	Use wirenet 8.2 to troubleshoot the missing +24 VDC.
4	Run the Black Imaging Unit Motor test from diagnostics. Is the voltage at J235-5 0 VDC with the test running?	Go to step 5.	Use wirenet 8.2 to troubleshoot.
5	Is the frequency at J235-8 between 1KHz and 1.3 KHz?	Replace the black imaging unit motor.	Go to step 6.
6	Is the frequency between J534A-2 and ground between 1 KHz and 1.3 KHz?	Check for an open circuit between J534A-8 and J235-8.	Replace in order until resolved: ■ engine interface board ■ engine control board.
7	Is +3.3 VDC present at J534A-7 with the Motor test running from diagnostics?	If there is no mechanical bind in the black imaging unit, replace the black drum drive motor.	Use wirenet 8.2 to troubleshoot the missing +3.3 VDC.

Waste Cartridge Full Detection Sensor Failure, Code 78

Troubleshooting References

Applicable Parts	Wiring and Plug/Jack Map References
■ Waste Cartridge ■ Waste Cartridge Full Sensor ■ Engine Control Board	

Troubleshooting Procedure

Step	Actions and Questions	Yes	No
1	1. Remove the waste cartridge sensor holder without disconnecting the harnesses. 2. Measure the voltage between the yellow wire on the waste cartridge full sensor and frame ground, alternately interrupting the sensor. 3. Does the voltage toggle between +5 and 0 VDC?	Go to step 5.	Go to step 2.
2	1. Measure the voltage between the gray wire and frame ground. 2. Does the voltage measure +5 VDC?	Go to step 4.	Go to step 3.
3	1. Remove the rear cover and rear shield. 2. Measure the voltage at J407B-17 on the engine control board. 3. Does the voltage measure +5 VDC?	Inspect the wiring harness for damage and replace, if necessary.	Replace the engine control board.
4	1. Measure the voltage between the violet wire and frame ground. 2. Does the voltage measure 0 VDC?	Replace the waste cartridge full sensor.	Inspect the wiring harness for damage and replace, if necessary.
5	1. Remove the rear cover and rear shield. 2. Measure the voltage at J407B-16 on the engine control board. 3. Alternately interrupt the sensor 4. Does the voltage toggle between +5 and 0 VDC?	Replace the engine control board.	Inspect the wiring harness for damage and replace, if necessary.

Engine Logic Board Failure, Code 80

Troubleshooting Procedure

Step	Actions and Questions	Yes	No
1	1. Cycle power to the printer to clear the error. 2. Did this clear the error?	Complete	Replace the engine control board or the image processor board.

Controller to Engine Communications Failure, Code 81

Troubleshooting Procedure

Step	Actions and Questions	Yes	No
1	1. Cycle power to the printer to clear the error. 2. Turn the printer off. 3. Remove the Image processor board, IP board cover and metal cover. 4. Inspect the orange ribbon cable between the relay board and the engine control board. 5. Is the connector fully seated and free from damage?	Replace in the following order: ■ Image processor board ■ Electrical chassis assembly ■ Engine control board	

Engine Logic Board RAM/ROM Failure, Code 82

Troubleshooting Procedure

Step	Actions and Questions	Yes	No
1	1. Cycle power to the printer to clear the error. 2. Did this clear the error?	Complete.	Replace the engine control board.

Engine Logic Board NVRAM Failure, Code 83

Troubleshooting Procedure

Step	Actions and Questions	Yes	No
1	1. Cycle power to the printer to clear the error. 2. Did this clear the error?	Complete.	Replace in the following order: ■ engine control board ■ image processor board

Controller to Engine Logic Board Time Failure, Code 84

Troubleshooting Procedure

Step	Actions and Questions	Yes	No
1	1. Cycle power to the printer to clear the error. 2. Did this clear the error?	Complete.	Replace the engine control board.

Engine Logic Board Micro Pitch Failure, Code 85

Troubleshooting Procedure

Step	Actions and Questions	Yes	No
1	1. Cycle power to the printer to clear the error. 2. Did this clear the error?	Complete.	Replace in the following order: ■ engine control board ■ image processor board

High-Voltage Power Supply Failure, Code 86

Troubleshooting Procedure

Step	Actions and Questions	Yes	No
1	1. Cycle power to the printer to clear the error. 2. Did this clear the error?	Complete.	Replace in the following order: ■ T3 HVPS ■ image processor board

Tray Lift Failure, Code 87

The tray level sensor does not detect that the tray has lifted. Examine the trays and paper feed assemblies for any physical damage before starting the troubleshooting procedure.

Troubleshooting References

Applicable Parts	Wiring and Plug/Jack Map References
■ Tray Level Sensor ■ Paper Select Switch Assembly ■ Paper Feed Motor ■ Engine Control Board	

Troubleshooting Procedure

Step	Actions and Questions	Yes	No
1	Is the problem with Tray 2?	Go to step 2.	Go to step 7.
2	1. Pull out and then reseat Tray 2. 2. Does the lift motor operate?	Go to step 3.	Go to step 4.
3	1. Did the Error Code 87 clear from the front panel?	Complete. This could be an intermittent problem. If the problem returns, replace in order: ■ tray level sensor ■ engine interface board	Replace the engine control board.
4	1. Using Service Diagnostics test the tray 2 Sensors. 2. Does the level indicate H?	Replace in order until resolved: ■ tray level sensor ■ No paper sensor ■ engine interface board ■ engine control board	Go to step 5.
5	1. While still in diagnostics, pull out tray 2. 2. Does SW1-4: indicate LLLL?	Replace in order until resolved: ■ paper-select switch assembly ■ engine interface board ■ engine control board	Go to step 6

Step	Actions and Questions	Yes	No
6	1. Reseat the paper tray. 2. Does SW1-4: indicate H in any position?	Replace the paper feed motor.	Replace in order until resolved: ■ paper-select switch assembly ■ engine interface board ■ engine control board
7	1. Pull out and then reseat the problem tray. 2. Listen for the motor, does the lift motor operate?	Go to step 8.	Go to step 9.
8	1. Did the Error Code 87 clear from the front panel?	Complete. This could be an intermittent problem. If the problem returns, replace in order: ■ tray level sensor ■ engine interface board	Replace the engine control board.
9	1. Using service diagnostics check the level sensor and no paper sensor. 2. Does the level indicate H?	Replace in order until resolved: ■ tray level sensor ■ no paper sensor ■ LTA or HCF control board ■ engine interface board ■ engine control board	Go to step 10.
10	1. While still in diagnostics, pull out tray 2. 2. Does SW(3,4,5)-4: indicate LLLL?	Replace in order until resolved: ■ paper-select switch assembly ■ engine interface board ■ engine control board	Go to step 11.
11	1. Reseat the paper tray. 2. Does SW(3,4,5,)-4: indicate H in any position?	Replace the paper feed motor.	Replace in order until resolved: ■ paper-select switch assembly ■ engine interface board ■ engine control board.

Tray 1/MPT Size Sensor (7-274), Code?

An open circuit has been detected in the Paper Size Senor

Troubleshooting References

Applicable Parts	Wiring and Plug/Jack Map References
■ Tray 1/MPT Assembly ■ Engine Control Interface Board. ■ Engine Control Board	

Troubleshooting Procedure

Step	Actions and Questions	Yes	No
1	Is J610-2 between +0.15 and +3.1 VDC?	Go to step 2.	Go to step 3.
2	Is J532B-6 between +0.15 and +3.1 VDC?	Replace in the following order: ■ engine control interface board. ■ engine control board	Troubleshoot and repair the wiring harness between P/J 535 and P610.
3	Is +3.3 VDC present at J610-1?	Replace the Tray 1/MPT assembly.	Go to step 4.
4	Is +3.3 VDC present at J532B-7?	Troubleshoot and repair the wiring harness between P/J 535 and P610.	Replace in the following order: ■ engine control interface board. ■ engine control board

Lower Tray Communication Failure, Code 88

Troubleshooting References

Applicable Parts	Wiring and Plug/Jack Map References
■ Engine Control Interface Board ■ Tray module board ■ Engine Control board	

Troubleshooting Procedure

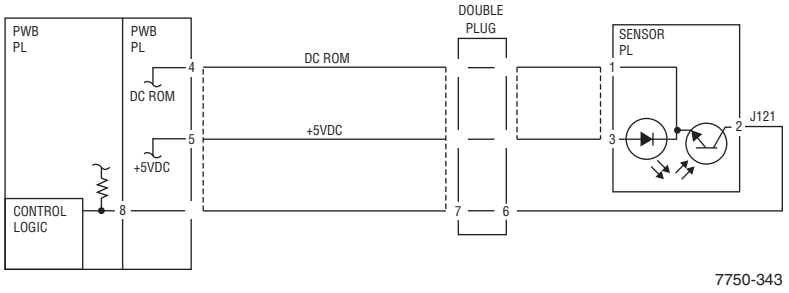
Step	Actions and Questions	Yes	No
1	Is J668-1 on the tray module board +5 VDC?	Go to step 2.	Use the wirenets to troubleshoot and repair the open wire.
2	Is J668-3 on the tray module board +24 VDC?	Go to step 3.	Use the wirenets to troubleshoot and repair the open wire.
3	1. Check the following connectors for continuity: ■ P669-1 to J534A-15 ■ P669-2 to J534A-14 ■ P669-3 to J534A-13 ■ P669-4 to J534A-12 ■ P669-5 to J534A-11 ■ P669-6 to J534A-10 2. Do all checks indicate continuity?	Replace in the following order: ■ engine control interface board ■ tray module board ■ engine control board	Check and repair broken wires or bad connectors.

Reflective Sensor Procedure

Troubleshooting References

Applicable Parts	Wiring and Plug/Jack Map References
■ Reflective Sensor ■ Engine Control Board	

Refer to the figure below during this procedure..



Troubleshooting Procedure

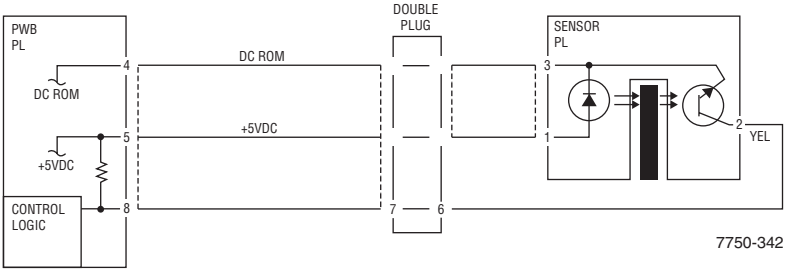
Step	Actions and Questions	Yes	No
1	1. Enter service diagnostics and run the Reflective Sensor test. 2. Does the sensor change state from L to H when blocked?	Replace the sensor.	Go to step 2
2	1. Measure Pin 2 to ground. 2. Is there +5 VDC?	Go to step 4.	Go to step 3.
3	1. Check the wire between Pin 2 and engine control board Pin 8 for an open circuit or poor contact. 2. Is the wiring OK?	Replace the board.	Repair or replace the wiring harness.
4	1. Is there +5 VDC between sensor Pin 1 and Pin 3?	Replace the sensor.	Go to step 5.
5	1. Is there +5 VDC between engine control board Pin 4 and Pin 5?	Go to step 6.	Replace the engine control board.
6	1. Check the wiring to Pin 4 and sensor Pin 1 and Pin 5 to sensor Pin 3 for an open or poor circuit. 2. Is the wiring OK?	Replace the engine control board.	Replace the wiring harness.

Transmissive Sensor Procedure

Troubleshooting References

Applicable Parts	Wiring and Plug/Jack Map References
■ Transmissive Sensor ■ Engine Control Board	

Refer to the following figure during this procedure.



Troubleshooting Procedure

Step	Actions and Questions	Yes	No
1	1. Enter service diagnostics and run the Transmissive Sensor test. 2. Does the sensor change state from L to H when blocked?	Replace the sensor.	Go to step 2.
2	1. Remove the sensor connector. 2. Does the sensor now change state?	Replace the sensor.	Go to step 3.
3	1. Check for a short between sensor Pin 2 and engine control board Pin 8. 2. Is there a short?	Replace the wiring harness.	Go to step 4.
4	1. Is there +5 VDC between sensor Pin2 and ground?	Go to step 6.	Go to step 5.
5	1. Check the wiring between sensor Pin 2 and engine control board Pin 8 for an open or poor circuit. 2. Is the wiring OK?	Replace the affected board.	Repair or replace the wiring harness.
6	1. Check the wiring to Pin 4 and sensor Pin 1 and Pin 5 to sensor Pin 3 for an open or poor circuit. 2. Is the wiring OK?	Replace the affected board.	Replace the wiring harness.

Finisher Stapler Move Sensor On Failure, Code 111
Finisher Stapler Move Sensor Off Failure, Code 112

Error Code 111: The staple move sensor did not turn ON within 2 seconds after the system has started to move to the staple position and the staple move sensor has turned off. Or, the staple move sensor did not turn on after the move to the staple position has completed.

Error Code 112: The staple move sensor does not turn OFF within 5 seconds after the move to the staple position has started. Or, the staple move sensor turned OFF after the staple position has been fixed. Or, the staple move sensor does not turn OFF within 5 seconds after it has turned ON when the paper passed through the 1st position of the dual staple, moving to the rear staple position.

Troubleshooting References

Applicable Parts	Wiring and Plug/Jack Map References
■ Finisher Control Board ■ Staple Move Motor	

Troubleshooting Procedure

Step	Actions and Questions	Yes	No
1	1. Manually move the staple head. 2. Does the head move smoothly from front to rear?	Go to step 2.	Diagnose and repair the mechanical defect.
2	1. Enter service diagnostics and run the Stapler Move Sensor test. 2. Does the value change from L to H when the sensor is blocked?	Go to step 3.	Use the Transmissive Sensor procedure to diagnose and repair the sensor.
3	1. Run the Stapler: Move Front or Move Rear test in diagnostics. 2. Does the stapler move motor run?	Replace the finisher control board.	Go to step 4.
4	Is +24 VDC present at P847 pins 1, 2, 5, and 6?	Replace in the following order: ■ stapler move motor ■ finisher control board	Go to step 5

Step	Actions and Questions	Yes	No
5	Is +24 VDC present at P847-4?	Replace the finisher control board.	Troubleshoot the +24 VDC interlock circuit, using the "Troubleshooting the 24 VDC LVPS" on page 4-18.

Finisher Stapler Failure, Code 113

The staple home sensor doesn't turn ON within 2 seconds after the stapler motor started to turn backwards.

Troubleshooting References

Applicable Parts	Wiring and Plug/Jack Map References

- Finisher Control Board
- Staple Unit Assembly

Troubleshooting Procedure

Step	Actions and Questions	Yes	No
1	1. Enter service diagnostics. 2. Run the Stapler Home sensor test. 3. Does the value change from H to L when the stapler is moved away from the home position?	Go to step 6.	Go to step 2.
2	1. Measure the voltage between finisher board connector P852-2 and frame ground. 2. Does the voltage change between 0 and +5 VDC when the sensor is blocked and unblocked?	Replace the finisher control board.	Go to step 3.
3	1. Measure the voltage at the Finisher Board connector P852-1. 2. Dose the voltage measure +5 VDC?	The home sensor or the wiring is bad. Replace the staple unit assembly.	Go to step 4.
4	1. Disconnect the Stapler Unit Assembly. 2. Measure the voltage between the finisher board connector P852-1 and frame ground. 3. Does the voltage measure +5 VDC?	Replace the stapler unit assembly.	Go to step 5.
5	Is +24 VDC present at either J847-7 or J847-9?	Replace the finisher control board.	Troubleshoot and repair the +24 VDC interlock circuit.
6	1. Enter service diagnostics and run the "Stapler Close Motor" test. 2. Does the stapler motor operate correctly?	Replace the finisher control board.	Go to step 7.

Step	Actions and Questions	Yes	No
7	With the Stapler Close Motor test running is +24 VDC present at J847-7?	Replace in the following order: ■ stapler head assembly ■ finisher control board	Troubleshoot and repair the +24 VDC interlock circuit.

Front Tamper Home Sensor Failure, Code 114

With the Front Tamper Home Sensor OFF the Front Tamper Home Sensor did not turn ON within 800 ms after the move to the Front Tamper Home position has begun.

With the Front Tamper Home Sensor on the Front Tamper Sensor did not turn Off when the Front Tamper Home Sensor is deactuated.

Troubleshooting References

Applicable Parts	Wiring and Plug/Jack Map References
■ Front Tamper Motor ■ Finisher Control Board	

Troubleshooting Procedure

Step	Actions and Questions	Yes	No
1	1. Run the Front Tamper Low Front or Front Tamper Low Rear test in diagnostics. 2. Does the front tamper guide operate?	Go to step 6.	Go to step 2.
2	Does the front tamper motor operate?	Check the tampering mechanism for a mechanical problem.	Go to step 3.
3	1. Check pins J877 A pins 1,3,4 and 6. 2. Is +24 VDC present on any of the pins?	Go to step 4.	Go to step 5.
4	1. Check the following wires for and open circuit or short circuit to ground. Is any wire open or shorted? J877A-1 to J848B-7 J877A-3 to J848B-9 J877A-4 to J848B-10 J877A-6 to J848B-12	Repair or replace the wiring harness.	Replace in order until resolved: ■ front tamper motor ■ finisher control board
5	Is +24 VDC present on pins J848B-8 and J848B-11 on the finisher control board?	Replace the finisher control board.	Troubleshoot and repair the +24 VDC interlock circuit.
6	1. Check the tamper front home sensor in diagnostics. 2. Does the value change from H to L when the tamper is moved away from the home position?	Replace the finisher control board.	Repair the sensor using the Transmissive Sensor troubleshooting procedure.

Rear Tamper Home Sensor Failure, Code 115

With the Rear Tamper Home Sensor OFF the Rear Tamper Home Sensor did not turn On within 800 ms after the move to the Rear Tamper Home position has begun.

With the Rear Tamper Home Sensor on the Rear Tamper Sensor did not turn Off when the Rear Tamper Home Sensor is deactuated.

Troubleshooting References

Applicable Parts	Wiring and Plug/Jack Map References
■ Rear Tamper Motor ■ Finisher Control Board	

Troubleshooting Procedure

Step	Actions and Questions	Yes	No
1	1. Run the Rear Tamper Low Front or Rear Tamper Low Rear test in diagnostics. 2. Does the rear tamper guide operate?	Go to step 6.	Go to step 2.
2	Does the rear tamper motor operate?	Check the tampering mechanism for a mechanical problem.	Go to step 3.
3	1. Check pins J878A pins 1,3,4 and 6. 2. Is +24 VDC present on any of the pins?	Go to step 4.	Go to step 5.
4	1. Check the following wires for and open circuit or short circuit to ground. 2. Is any wire open or shorted? 3. J878A-1 to J848B-1 4. J878A-3 to J848B-3 5. J878A-4 to J848B-4 6. J878A-6 to J848B-6	Repair or replace the wiring harness.	Replace in order until resolved: ■ rear tamper motor ■ finisher control board
5	Is +24 VDC present on pins J848B-2 and J848B-5 on the finisher control board?	Replace the finisher control board.	Troubleshoot and repair the +24 VDC interlock circuit.
6	1. Check the tamper rear home sensor in diagnostics. 2. Does the value change from H to L when the tamper is moved away from the home position?	Replace the finisher control board.	Repair the sensor circuit using the transmissive sensor troubleshooting procedure.

Finisher Stacker Height Sensor Off Failure, Code 116

The Stack Height Sensor did not detect that the tray went down within 5 seconds after the Stacker Tray had been signaled to lower down at initialization. Or, the Stack Height Sensor did not detect the tray moving up within 5 seconds after the Stacker Tray had been signaled to lift.

Troubleshooting References

Applicable Parts	Wiring and Plug/Jack Map References
■ Stacker Height Sensor/Actuator ■ Finisher Control Board	

Troubleshooting Procedure

Step	Actions and Questions	Yes	No
1	1. Actuate the stacker height sensor in diagnostics. 2. Does the value change between H and L?	Go to step 2.	Troubleshoot using the transmissive sensor procedure.
2	1. Run the Finisher Stacker Motor Down test in diagnostics. 2. Does the stacker tray lower?	Go to step 5.	Go to step 3.
3	Does the stacker motor turn?	Diagnose and repair the mechanical problem. Check the stacker motor gear, stacker tray, and belt track gear.	Go to step 4.
4	Is +24 VDC present at P/J 847-12 with the Finisher Stacker Motor Down test running in diagnostics?	Replace the stacker motor.	Replace the finisher control board.
5	1. Run the Finisher Stacker Motor Up test in diagnostics. 2. Does the stacker tray move up?	Replace the finisher control board.	Go to step 6.
6	Does the sacker motor turn?	Diagnose and repair the mechanical problem. Check the stacker motor gear, stacker tray, and belt track gear.	Go to step 7.

Step	Actions and Questions	Yes	No
7	Is +24 VDC present at P/J 847-11 with the Finisher Stacker Motor Down test running in diagnostics?	Replace the stacker motor.	Replace the finisher control board.

Finisher Stacker Tray Failure, Code 117

The system detected that the Stacker Tray Upper Limit Sensor was turned ON after the Stacker Tray began lifting up. Or the Stacker Tray Upper Limit Sensor remained on after the lowering down of the Stacker Tray was completed.

Troubleshooting References

Applicable Parts	Wiring and Plug/Jack Map References
■ Stacker Motor ■ Finisher Control Board	

Troubleshooting Procedure

Step	Actions and Questions	Yes	No
1	1. Actuate the stacker upper limit sensor in diagnostics. 2. Does the value change between H and L?	Go to step 2.	Troubleshoot using the transmissive sensor procedure.
2	1. Run the Finisher Stacker Motor Down test in diagnostics. 2. Does the stacker tray lower?	Go to step 5.	Go to step 3.
3	Does the stacker motor turn?	Diagnose and repair the mechanical problem. Check the stacker motor gear, stacker tray, and belt track gear.	Go to step 4.
4	Is +24 VDC present at P/J 847-12 with the Finisher Stacker Motor Down test running in diagnostics?	Replace the stacker motor.	Replace the finisher control board.
5	1. Run the Finisher Stacker Motor Up test in diagnostics. 2. Does the stacker tray move up?	Replace the finisher control board.	Go to step 6.
6	Does the stacker motor turn?	Diagnose and repair the mechanical problem. Check the stacker motor gear, stacker tray and belt track gear.	Go to step 7.

Step	Actions and Questions	Yes	No
7	Is +24 VDC present at P/J 847-11 with the Finisher Stacker Motor Down test running in diagnostics?	Replace the stacker motor.	Replace the finisher control board.

Finisher Stapler Front Corner On Failure, Code 118
Finisher Stapler Front Corner Off Failure, Code 119

Error Code 118: The Staple Front Corner Sensor did not turn ON within 2 seconds after the system started to move to the Front Corner. Or the Staple Front Corner Sensor remained ON when starting the move to the Front Corner.

Error Code 119: The Staple Front Corner Sensor did not turn OFF within 2 seconds after starting to move from the Front Corner. Or the Staple Front Corner Sensor does not turn OFF after the move from the Front Corner was completed.

Troubleshooting References

Applicable Parts	Wiring and Plug/Jack Map References
■ Finisher Control Board ■ Staple Move Motor	

Troubleshooting Procedure

Step	Actions and Questions	Yes	No
1	1. Manually move the staple head. 2. Does the head move smoothly from front to rear?	Go to step 2.	Diagnose and repair the mechanical defect.
2	1. Check the Stapler Front Corner Sensor in diagnostics. 2. Does the value change from L to H?	Go to step 5.	Use the transmissive Sensor procedure to diagnose and repair the sensor.
3	1. Defeat the front door interlock switch then run the Stapler: Move Front or Move Rear motor test in diagnostics. 2. Does the stapler move motor run?	Replace the finisher control board.	Go to step 4.
4	Is +24 VDC present at P847-4?	Replace the stapler move motor.	Go to step 5.
5	Is +24 VDC present at test point 9 on the finisher control board?	Replace the finisher control board.	Troubleshoot and repair the +24 VDC interlock circuit.

Finisher Eject Clamp Home Sensor On Failure, Code 120
Finisher Eject Clamp Home Sensor Off Failure, Code 121

Error Code 120: The Eject Clamp Home Sensor did not turn ON within 5 seconds after the Eject Clamp Up was started.

Error Code 121: The Eject Clamp Home Sensor did not turn OFF within 2 seconds after the Eject Clamp Down was started.

Troubleshooting References

Applicable Parts	Wiring and Plug/Jack Map References
■ Eject Motor ■ Finisher Control Board	

Step	Actions and Questions	Yes	No
1	1. Remove the Set Clamp Home Sensor Bracket from the Finisher while leaving the connector plugged in. 2. Check the Set Clamp home sensor in diagnostics. 3. Does the value change from H to L while blocking and unblocking the sensor?	Go to step 2.	Use the transmissive Sensor procedure to diagnose and repair the sensor.
2	1. Reinstall the sensor in the Finisher. And turn the printer on. 2. Is the eject clamp up?	Replace the finisher control board.	Go to step 3.
3	1. Run the Eject Release Test in diagnostics. 2. Does the Eject Motor Run?	Diagnose and repair the mechanical problem with the eject clamp assembly.	Go to step 4.
4	1. Is +24 VDC present at P846-12?	Replace the eject motor.	Go to step 5.
5	1. Is +24 VDC present at test point 9 on the finisher control board?	Replace the finisher control board.	Troubleshoot and repair the +24 VDC interlock circuit.

Finisher Decurler Failure, Code 122

The level of the Decurler Cam Home Sensor did not change 4 seconds after the Decurler Cam Clutch has turned on.

Troubleshooting References

Applicable Parts	Wiring and Plug/Jack Map References
■ Decurler Cam Clutch ■ Stacker Motor ■ Finisher Control Board	

Troubleshooting Procedure

Step	Actions and Questions	Yes	No
1	1. Rotate the actuator while running the Decurler Cam Position test in diagnostics. 2. Does the value change between H and L?	Go to step 2.	Troubleshoot using the transmissive sensor procedure.
2	Does the decurler cam clutch operate in diagnostics?	Check for a mechanical problem with the decurler cam clutch drive. If no problem is found replace the clutch.	Go to step 3.
3	Is +24 VDC present at P/J 849-1?	Replace the decurler cam clutch.	Go to step 4.
4	Is +24 VDC present at test point 5 on the finisher control board?	Replace the finisher control board.	Troubleshoot the +24 VDC interlock circuit.
5	Is +24 VDC present at P/J 847-11 with the Finisher Stacker Motor Down test running in diagnostics?	Replace the stacker motor.	Replace the finisher control board

Finisher Set Clamp Failure, Code 123

The set clamp home sensor did not turn on within 2 seconds after the set clamp started operation.

Troubleshooting References

Applicable Parts	Wiring and Plug/Jack Map References
■ Set Clamp Solenoid ■ Finisher Control Board	

Troubleshooting Procedure

Step	Actions and Questions	Yes	No
1	1. Check the Set Clamp home sensor in diagnostics. 2. Does the value change from H to L while rotating the actuator?	Go to step 2.	Use the transmissive Sensor procedure to diagnose and repair the sensor.
2	Does the solenoid energize when running the Set Clamp Paddle test in diagnostics?	Go to step 3.	Go to step 4.
3	1. Run the Eject Forward Test and then the Eject Release Test in diagnostics. 2. Does the set clamp paddle turn once?	Replace the finisher control board.	Go to step 4.
4	Is +24 VDC present at P848A-10?	Go to step 5.	Go to step 6.
5	Is +24 VDC present at P848A-11?	Replace the finisher control board.	Replace the set clamp solenoid.
6	Is +24 VDC present at test point 9 on the finisher control board?	Replace the finisher control board.	Troubleshoot and repair the +24 VDC interlock circuit.

Finisher Communication Failure, Code 124

There are no diagnostic routines for problems involving serial communications. It is recommended that you address the following assemblies in this order:

- Finisher Control Board
- Engine Control Board
- Perform continuity checks on any wiring harnesses involved.

Finisher Staple Mode Logic Failure, Code 125

There are no diagnostic routines for problems involving serial communications. It is recommended that you address the following assemblies in this order:

- Stapler Assembly
- Engine Control Board
- Perform continuity checks on any wiring harnesses involved.

General Troubleshooting

In this chapter...

- Introduction
- Service Diagnostics
- Front Panel Troubleshooting
- Inoperable Printer Troubleshooting
- Troubleshooting Power Supplies and Interlocks
- Media Jams and the Paper Path
- Operating System and Application Problems

Chapter 4

Introduction

This chapter covers the general startup, PostScript, and power supply operations of the printer to aid in troubleshooting problems not associated with an error code or front panel error message.

For troubleshooting problems associated with an error code or front panel error message, see "Error Messages and Codes" on page 3-1.

Troubleshooting procedures isolate a problem to a specific component or subassembly, in some cases including the wiring harness.

Service Diagnostics

The Phaser 7750 Color Laser Printer has built-in diagnostics that allow access to sensors, turning on and off motors, clutches, solenoids, built-in test patterns, cleaning maintenance operations, printer status and some NVRAM access. Using these tests, the service technician should be able to diagnose problems quickly and isolate which component or sub assembly part needs replacement.

Service diagnostics are to be executed through the front panel by a certified service technician only. Service Diagnostics can be entered one of two ways:

Entering Service Diagnostics by Reboooting the Printer:

1. Turn the printer power OFF.
2. Hold down the **Back** and **Information** buttons simultaneously and turn the printer back ON.
3. Continue to hold the buttons until the following message is displayed on the front panel: **Service Diagnostics V#.##, Initializing...**, and then release the buttons.
4. The front panel displays the **Service Diagnostics Menu**.
   - You can print a Service Diagnostics Menu Map by highlighting **Print Service Diagnostics Menu**, and pressing **OK**.
   - The printer will now run through POST and return to **Ready.**
   - You will need to re-enter service diagnostics.

Entering hidden service menu without rebooting the printer

1. Scroll to the **Troubleshooting** --> **Service Tools** --> **Printer Status Page** menu.
2. Hold down the **Up** and **Down** buttons simultaneously.

Service Diagnostic Front Panel Button Descriptions

Button	Function
BACK	Returns to the prior higher level menu structure, if available. If help text is displayed on the front panel, pressing BACK restores the current menu item and remove the help text.
CANCEL	Terminates the current test. Cancels current INFO display.
INFO	Provides help information, if available. Pressing INFO again restores the current menu item and removes the help text.
UP	Scrolls up one menu item within a menu list. This control does not 'wrap'. Used to increment data in tests requiring user input.
DOWN	Scrolls down one menu item within a menu list. This control does not 'wrap'. The end of a menu list is designated by three asterisks. Used to decrement data in tests requiring user input.
OK	Enters the highlighted menu. Executes the current test item. Used to select a data value entered by the user.

Service Diagnostic Tests Table

Test	Front Panel Display	Test Operation Definition
Print Service Menu Map Prints the Service Diagnostics Menu Page.		
General Status Provides current print engine status.		
Engine ROM Version	Engine Version is xxx.x.x Video ASIC Version: x.xx	Displays engine ROM version.
Configuration	Options: {1TM | 3TM | HCF} { +Duplexer } (nnn) Finisher}	Displays all optional components installed.
Ambient Temp/ Humidity	Temperature is XX^{o} C Humidity is XX %	Displays current printer temperature and humidity.
Fuser Temperature	Front Temp is XXX^{o} C Back Temp is XXX^{o} C	Displays current fuser temperature.
Fault List	No Faults Detected | <nn,nnn> *Fault Text*	Power up only - current static condition, not a history log.
Front Panel Adjust	Adjust Contrast? Yes No Backlight On? Yes No	Adjust Value: 1 - 15: 8 Default <Press **UP/Down** to Adjust.> <Press **OK** to accept new value and exit.>

Test	Front Panel Display	Test Operation Definition
Jam Info	No Static Jam Detected or Static Jam: *area name*	Location of Jam <Press **Back** or **Cancel** to exit.>
Fault History	<nnn> *text*: mmm	<nnn>: is a service defined numeric code, see "Service Usage Profile Status Codes" on page A-5 for code definitions. *text* is the fault description. mmm: is the fault count. The maximum fault count is 100 and rolls to 1 on overflow. All count values are 0 at power on.
Built-In Test Prints Prints pre-defined images stored in the engine firmware for troubleshooting image-quality problems.		
Paper Path Options	For Print Laser, check only: Selects tray, count of/continuous sheets, simplex/duplex, offset, media type/weight, finisher, staple.	
	Source tray: Tray 2-5, Tray1/ MPT Yes No	Press **Up/Down** to change setting.
	Current # sheets is n Select new # sheets? Yes No	Press **Up/Down** to change the number. Press **Info** to shift column.
	Simplex/Duplex: Change Duplex setting? Yes No	Press **Up/Down** to change setting.
	Offset: None, Auto, Front, Rear Set a new offset? Yes No	Press **Up/Down** to change setting.
	Media Type: Set New Media Type? Yes No	Press **Up/Down** to change setting.
	Output Destination Change Output Setting? Yes No	Press **Up/Down** to change setting. This option is only available with an optional finisher installed.
	Stapling is: Set new stapling options? Yes No	Press **Up/Down** to change setting This option is only available with an optional finisher installed.

Test	Front Panel Display	Test Operation Definition
Print Laser Check	Fuser warming up Laser Init Startup | Imaging | Delivering | Finishing Laser Done	This is a quick test for all four laser colors, including developer and toner. All four primaries are present on the page. The print should appear grey.
Print Halftones	HalfTones Init Startup | Imaging | Delivering | Finishing HalfTones Done	Prints 6 pages of 100% solid fill for; Yellow, Magenta, Cyan, Black, Red and Green.
Print Grid 1-dot	Grid Init Startup | Imaging | Delivering | Finishing Grid Done	This print displays the four primary color lines in a grid pattern. See "RegiCon Adjustment Procedures" on page 6-5“.
Print Fast Scan 8 Tone	Scan Init Startup | Imaging | Delivering | Finishing Scan Done	Prints four pages of eight tones for each primary color. *Note: Use SEF to see all scans.*
Sensor Tests The technician should test the functionality of each sensor by blocking the sensor and watching its state change on the front panel. **NOTE** Several jam sensors only change state if a jam has occurred. All doors (interlock switches) must remain closed or defeated to test for a changed state. **NOTE** The default state of all sensors are shown under the following conditions:. ■ The printer’s front panel displays “Ready to Print.” ■ All covers are closed. ■ All routine maintenance items and toner cartridges are installed. ■ All trays and Tray 1 (MPT) have paper in them. ■ No paper is in the paper path or Finisher. ■ The Finisher is docked correctly to the printer. ■ No motor tests have been performed to change the position of any components. ■ The waste cartridge is not full.		
Ambient Temp/ Humidity	Temperature is XX^{o} C Humidity is XX%	
Fuser Temperature	Front Temp is XX^{o} C Back Temp is XX^{o} C	
Interlocks	Front (or Right) Door is L (A) Left Upper Door L (D) Duplex Cover is L (B) Left Lower Door is L (C) Optional Tray Left Cover L	H = Open L = Closed **NOTE** Only one door can be open at a time to run this test.

Test	Front Panel Display	Test Operation Definition
Jam Sensors	LH Low Cover Area is L LH Cover Area is L LH Fuser Area is L Duplex Cover Area is L Tray Left Cover Area is L Tray #3 Area is L Tray #4 Area is L Tray #5 Area is L (F) Fin Compiler Cover Area L (G) Fin Compiler Safety Area L (H,J) Fin Front Cover Area is L Fin Hor Tran Area is L Fin Docking Area is L	H = Paper present L = Paper not present This is the FIN IN GATE. This is the FIN HOR.TRANS. This is the FIN EJECT.
POB Sensor	POB Sensor is H	Paper on Belt Sensor L = Paper present H = Paper not present
Registration Sensor	Registration Sensor is H	L = Paper present H = Paper not present
OHP Sensor	Left OHP is L Right OHP is L	L = Paper or OHP present H = Paper or OHP not present
Duplex Sensor	Duplex is L	H = Paper present L = Paper not present
Tray Feed Sensors	Feed Out #1 is L Take Away (F/O #2) is L Feed Out #3 is L Feed Out #4 is L Feed Out #5 is L	H = Paper present L = Paper not present
Stack Full Sensor	Stack Full is H	H =Output Stack not full L = Output Stack full
Fuser Exit Sensor	Fuser Exit is L	H = Paper present L = Paper not present
1st BTR Retract Sensor	1st BTR Retract is L	H = In contact L = Retracted
2nd BTR Retract Sensor	2nd BTR Retract is H	H = In contact L = Retracted
Fuser Present	Fuser is Present Change soon | Change	Need to cycle power to get the results to change when installing a new fuser.
Read Fuser Fuses	Fuse 1 is Shorted Fuse 2 is Shorted Fuse 3 is Shorted (New Fuser)	100 page fuse 50% Life 99% Life Open indicates Fuse is blown.
Accum MOB Sensor	MOB sensor is L	H = belt home mark is sensed L = belt home mark not sensed
Belt Edge Sensor	Edge is nnn (current value)	OK or Failed

Test	Front Panel Display	Test Operation Definition
BTR Sensors	BTR Y is L BTR M is L BTR C is L BTR K is L 1st BTR is L 2nd BTR is L	H = Error L = No error
ADC Sensor	ADC is XXX	ADC = Automatic Density Correction Go to ADC Output check under adjustments and calibration.
Toner Waste Cartridge	Waste Cartridge presence is H Waste Cartridge full is L	All door switches must be closed. H = Present or full L = Not present or not full
Tray Sensors	Tray 2 Do you want auto media lift? Yes No Tray 2: SW1-4:HHHL-<Letter> Level: H NoPaper: L Tray 3 - <same as tray 2> Tray 4 - <no data available if HCF is installed> Tray 5 - <same as tray 3, 4>	The four switch pattern indicates the media size. Refer to the media switch table in the Wiring Diagrams chapter of this manual. L = Tray not lifted H = Tray lifted H = Paper not present L = Paper present **NOTE** Level 6 entries for Trays 3-5 follow the same pattern as for Tray 2.
Tray1 (MPT) Sensors	MPT No Paper is L - MPT size is XXX	MPT = Multi-Purpose Tray Range (0 - 1000) i.e. Letter LEF approx. 180 i.e. Letter SEF approx. 460
HCF/LTD Sensors	No HCF Attached or HCF Path 1 is L HCF Path 2 is L	High-Capacity Feeder
ATC Sensor	ATC 1 is nnn ATC 2 is nnn ATC 3 is nnn ATC 4 is nnn	ATC = Automatic Toner Calibration Value range (0 - 1000)
Imaging Unit Sensors	Imaging Unit Yellow is H Imaging Unit Magenta is H Imaging Unit Cyan is H Imaging Unit Black is H	H = Cartridge present L = No cartridge present
New Toner Cartridge Sensor		

Test	Front Panel Display	Test Operation Definition
Finisher Sensors	Interlocks Left-Hand Cover is L Top Cover is L Docking is H Horiz. Transport is L Horizontal Transport Entry is L Exit is L IOT Full is L Compiler Tray Exit is L Paper is L Cover Safety Switch is L Stacker No Paper is L Height is H Upper Limit is L Stack A is L Stack B is L Tamper Rear Home is L Front Home is H Stapler Head Home is L Low is L Ready is L Move is L Front Corner is H Miscellaneous IOT Reg. Clutch is H Eject Home is L Set Clamp Home is L Decurler Cam Position L	Optional - only if Finisher is installed H = Open, actuated or paper present L = Closed, deactuated or no paper present
Motors/Fans Tests Tests the operation of motors by running one or more motor tests at a time.		
CAUTION To avoid damaging the accumulator belt, it must be **removed** prior to performing the following motor tests: ■ Steering Motor ■ Imaging Unit Motor ■ Accumulator Belt Motor		
Main Motor	Main Motor is On Turn Motor Off All Motors Off	This test produces gear hopping noise unless you perform the 2nd transfer roller retract motor test, prior to this test.

Test	Front Panel Display	Test Operation Definition
Steering Motor	Do you wish to continue? Yes No Motor On Motor Off Please cycle power to the printer now!	CAUTION To avoid damaging the Accumulator Belt, it is recommended that you leave the belt installed and perform the Belt Edge Learn test instead, See "Belt Edge Learn" on page 4-11. Bypass the right-hand door interlock switch and observe the steering motor as the test is performed.
Imaging Unit Motor	Do you wish to continue? Yes No Motor On Motor Off Please cycle power to printer now!	**NOTE** Only run this test once per power cycle to avoid excessive toner being forced inside the developer and damaging it.
Accum Belt Motor	Do you wish to continue? Yes No Motor On Motor Off Please cycle power to printer now!	**NOTE** The accumulator belt must be removed prior to running this test.
1st BTR Retract/ Contact Motor	Press Back or Cancel to abort	**NOTE** Repeated executions of 1st BTR Motor Test will cause Motor Retract, Motor Contact, Motor Retract, etc.
2nd BTR Motor	2nd BTR Motor is Retract This test toggles between the two values of Retract and Contact. Motor Off	**NOTE** This test needs to be run twice to return the motor to a retracted position.
Duplex Motor	Duplex motor is On Turn Motor On (Low Speed) Turn Motor On (High Speed) All Motors Off	Press **Up/Down** to change setting.
Paper Feed Motors	Feed Motor: 2 3 4 5	**NOTE** Running this test causes a static jam. Clear paper path after running this test.
Paper Lift Motors	Lift Motor: 2 3 4 5	Press **Up/Down** to change setting.

Test	Front Panel Display	Test Operation Definition
Offset Motor	Direction: Forward Backward	Press **Up/Down** to change setting.
Color Developer Motor **Developer Motor**	Developer Motor is On Turn Motor Off All Motors Off	
Dispensor Motor	Disp. Motor: Yellow Magenta Cyan Black	**NOTE** Only run this test once per power cycle to avoid excessive toner being forced inside the developer and destroying it.
Agitator Motor	Motor On Motor Off	Press **OK** to run test.
Fans	Fuser / LVPS / Rear Fan is On Turn Motor Off All Motors Off	Press **Up/Down** to change setting.
Paper Path/No Pick	NoPaperRun Init	Runs a complete print cycle only. No paper is picked and no toner is dispensed.
Finisher Motors -Optional-	Optional Miscellaneous Main Eject Forward Eject Release **Stacker** Motor Up Motor Down **Tamper** Rear Tamper Low Front Rear Tamper Middle Front Rear Tamper High Front Rear Tamper Low Rear Rear Tamper Middle Rear Rear Tamper High Rear Front Tamper Low Front Front Tamper Middle Front Front Tamper High Front Front Tamper Low Rear Front Tamper Middle Rear Front Tamper High Rear Stapler Close Reverse Move Front Move Rear	Press **Up/Down** to change setting.

Test	Front Panel Display	Test Operation Definition
Clutch Tests Tests functionality of clutches by activating one clutch at a time.		
Take-Away Clutch	Clutch On Clutch Off	All tests are activated by pressing **OK**. Listen for the clutch. Test times out after 1 second.
Developer Clutch	Clutch On Clutch Off	
Registration Clutch	Clutch On Clutch Off	
Duplex Clutch	Which Direction? CCW CW Clutch On Clutch Off	
Finisher Clutches	Decurler Cam Clutch Clutch On Clutch Off	
Solenoid Tests Tests functionality of the solenoids by activation one solenoid at a time.		
Exit Gate Solenoid	Solenoid On Solenoid Off	
Duplex Gate Solenoid	Solenoid On Solenoid Off	
Shutter Solenoid	Solenoid On Solenoid Off	Press **OK** to run test.
ADC Shutter Open	Solenoid On	ADC = Automatic Density Correction Press **OK** to run test.
ADC Shutter Close	Solenoid Off	ADC = Automatic Density Correction Press **OK** to run test.
Tray 1/ MPT Feed Solenoid	Solenoid On Solenoid Off	MPT = Multi-Purpose Tray Press **OK** to run test.
Finisher Solenoids	Set Clamp Paddle HTrans Gate In Open HTrans Gate In Close	Press **OK** to run test.
Adjustments/ Calibrations Performs adjustments, calibrations and operations essential to the performance of the printer. For details on performing the RegiCon procedures, see "RegiCon Adjustment Procedures" on page 6-5.		
Belt Edge Learn		OK or Failed
ATC Sensor Setup		See to "ATC Sensor Setup" on page 6-14.
TRC Adjust		Displaces toner rendering curve points, not technician adjustable.

Test	Front Panel Display	Test Operation Definition
ADC Output Check	Measuring: Result = 0 Stop Status = 0 ADC Sensor Fail = 0 ADC shutter Fail - 0	This tests the Automatic Density Correction sensor.
Tone Up/Down	Measuring: Result = 0 Status = 0 ATC Sensor Fail = None ATC Limit Warn = None ATC Change Warn = None	This tests the Automatic Toner Calibration sensor.
Laser Power Check	Y=OK M=OK C=OK K=OK YMCK=OK YMCK(CycUp)=OK	This tests the laser output.
PWM Mapping Data Read		
Coarse RegiCon Init		See "Coarse RegiCon Initialization" on page 6-12.
Maintenance Engine maintenance functions		
Clean Fuser	Fuser Cleaning Sheets	Runs five sheets of paper through the fuser from the default tray.
Clean Accumulator Belt	Do you wish to continue? Yes No Motor On Motor Off Please cycle power to the printer now!	CAUTION To avoid damaging the Accumulator Belt, it is recommended that you leave the belt cleaner installed and perform the Belt Edge Learn test instead, see "RegiCon #1 Fine Skew Adjustment" on page 6-7.
NVRAM Access You can read or reset, selected NVRAM address locations. For all NVRAM access tests, see "Service Diagnostics NVRAM Resets" on page 6-19.		
PostScript NVRAM Reset		See "Service Diagnostics NVRAM Resets" on page 6-19.
Clear Tech Rep Faults	Clear <4-36> Clear <9-380 ~ 9-383> Clear <9-654> Clear <9-910 ~ 913> Clear <10-348 & 10-350>	Error Code 30 Error Codes 12, 13, 14, & 15 ADC Sensor Error Imaging Unit type mismatch Error Codes 40 and 44
Reset CRU Life Counters		Resets the life on individual routine maintenance items.
Reset Engine NVRAM	**Writes data to Eng NVM** Are you sure? Yes No	This writes data from the hard drive to the engine NVRAM. See "Resetting Engine NVRAM" on page 6-17.

Test	Front Panel Display	Test Operation Definition	
Store Engine NVRAM	**Writes data to HD** Are you sure? Yes No		This takes data from engine NVRAM and stores it onto the drive. See "Store Engine NVRAM" on page 6-21.
Exit	Exits to PostScript without running POST.		

Front Panel Troubleshooting

The Printer Does Not Come to a “Ready” State

Printer Does Nothing When Power is Switched On

See "Troubleshooting AC Power" on page 4-16.

LVPS, Fuser, and ROS Fans On, Front Panel LED Does Not Come On

1. Observe the blinking pattern on health LED (see chart on page 3-9) and troubleshoot the indicated problem.
2. The problem power supply is most likely the center 5 VDC supply. See "Troubleshooting the Low-Voltage Power Supplies" on page 4-17.
3. Replace the front panel (see page 8-5).
4. Replace the front panel cable (see page 8-5).
5. Remove the internal hard drive and reboot the printer (see page 8-39). If the splash screen now appears, replace the hard drive.
6. Replace the image processor board (see page 8-38).

LVPS, Fuser, and ROS Fans On, Front Panel LED is Red, No Front Panel Message

1. Observe the blinking pattern on health LED (see chart on page 3-9) and troubleshoot the indicated problem.
2. Replace the front panel (see page 8-5).
3. Replace the front panel cable (see page 8-5).
4. Replace the internal hard drive (see page 8-39).
5. Replace the image processor board (see page 8-38).

Front Panel Continually Displays “Xerox Phaser 7750” Splash Screen

1. Enter service diagnostics mode and watch the front panel during the "initializing" period for messages indicating any printer faults.
2. View the fault list for indications of any printer faults.
3. Replace the image processor board.
4. Replace the hard drive.
5. Replace the card cage assembly.
6. Replace the engine control board.

Front Panel Displays "Fatal Fault Encountered" Message

See the procedure for "Controller to Engine Communications Failure, Code 81" on page 3-39.

Inoperable Printer Troubleshooting

False LH Door, RH Door, Front Door Open, or Imaging Units Missing Messages

See the "Troubleshooting Power Supplies and Interlocks" on page 4-16.

For all of the Following Problems go to the Error Code Procedure "Tray Lift Failure, Code 87" on page 3-41.

- False "Load Paper in Tray [2,3,4,5]" Message
- False "Tray [2,3,4,5] Missing" Message
- Tray 2, 3, 4 or 5 will not lift or the printer will not recognize the auxiliary feeder.

Printer Does Not Recognize the Finisher

The finisher is connected to the printer by a complementary pair serial data link. The finisher also generates its own +5 VDC from +24 VDC supplied by the printer.

Troubleshooting Procedure

Step	Actions and Questions	Yes	No
1	Check that the finisher is properly docked with and connected to the printer.	Go to Step 2.	Repair the docking problem.
2	From the front panel check the Service Diagnostics Test Table to see if the finisher is recognized by the printer.	Reload the driver.	Go to Step 3.
3	1. Remove the rear cover and board cover from the finisher. 2. Check for presence of +24 VDC between the finisher board P844-2 and finisher frame ground.	Go to Step 4.	Troubleshoot and repair missing 24 VDC.
4	Turn off power and check the continuity of the serial data link circuit by verifying continuity between P531B-9 through –16 on the engine control board, and P843-1 through –8 on the Finisher Board.	Replace the finisher board.	Replace the engine control board.

Troubleshooting Power Supplies and Interlocks

Troubleshooting AC Power

Note

The GFI, Noise Filter, and AC Drive Board are all part of the AC Electrical Chassis.

Actions
1. Check the AC input voltage at the outlet.
2. Reconnect AC power. If the GFI trips immediately with the power switch OFF, disconnect AC power, remove the rear cover and metal shields. 3. Check for shorts in the AC Circuit from the GFI to the noise filter, the AC driver board and up to the power switch.
4. Switch the printer on. If the GFI trips, unplug the printer, remove the fuser, then retest.
5. Remove the rear cover and the two metal shields. Connect AC Input and switch the printer on. Check for AC voltage at: a. J72 on top of the GFI, if not present replace the GFI. b. Between FS76 and FS77 of the Noise Filter, if not present replace the noise filter. c. Into and out of the power switch, if not present replace the power switch. d. The connector at the bottom of the 3.3 VDC, 5 VDC, and 24 VDC LVPS, if not present replace the AC drive board.

Troubleshooting the Low-Voltage Power Supplies

3.3 VDC, 5 VDC and 24 VDC voltages are supplied by individual low-voltage power supply boards. The 24 VDC LVPS requires the presence of a 5 VDC enabling signal to operate.

Note

Before troubleshooting power supply problems, disconnect the lower tray deck or finisher, if installed, and restart the printer. Verify the problem is still present or refer to the appropriate option troubleshooting section.

1. Verify the printer is plugged in and the GFI is not tripped, if it is see "Troubleshooting AC Power" on page 4-16.
2. Remove the image processor board cover and metal plate. Disconnect the relay board power connector J300.
3. Switch the printer on. Check for 3.3 VDC at J510-1, -2, and -5. Check for 5VDC at J511-2, -3, and -4, and J511-3, -6, and -7. If 5 VDC is present check for 24 VDCDC at J505-1.
4. If no DC voltages are present, see Troubleshooting AC Power on page 3-87.
5. If 5 VDC is present but 3.3 VDC is not, see "Troubleshooting the +3.3 VDC and (2) +5 VDC Low-Voltage Power Supplies" on page 4-18.
6. If 3.3 VDC is present but 5 VDC and 24 VDC are not, see "Troubleshooting the +3.3 VDC and (2) +5 VDC Low-Voltage Power Supplies" on page 4-18.
7. If 5 VDC is present but 24 VDC is not, see "Troubleshooting the 24 VDC LVPS" on page 4-18.

Troubleshooting the +3.3 VDC and (2) +5 VDC Low-Voltage Power Supplies

Note

Switch off power and disconnect the power cord.

Actions
1. Remove the rear cover and rear shield.
2. Disconnect the harnesses to connectors P505, P510, P511 and 2nd BTR on the T1 HVPS, remove 3 screws and lower the T1 HVPS.
3. Connect AC Power and switch the printer ON.
4. Check for proper AC voltage at the connector at the bottom of each LVPS.
5. If not present, go to the Troubleshooting AC Power section (link).
6. Check for 3.3 VDC or 5 VDC at the connector at the top of the LVPS.
7. If correct voltage is not present, unplug the top connector and retest. If no voltage is present replace the LVPS. If the voltage returns check the harness, image processor board, engine board, and relay board for shorts.

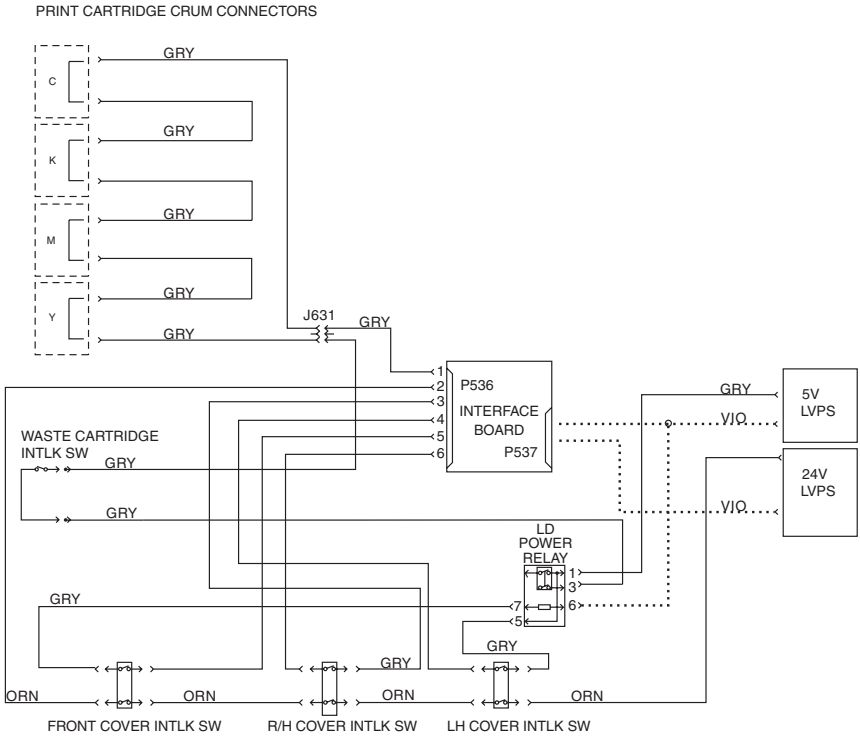
Troubleshooting the 24 VDC LVPS

Note

Switch off power and disconnect the power cord. The 24 VDC LVPS requires a 5 VDC enable signal to operate. Ensure proper operation of the 5 VDC LVPS before proceeding.

1. Remove the rear cover and 24 VDC PS metal shield.
2. Connect AC power and switch the printer ON.
3. Check for proper AC voltage at the connector at the bottom of the LVPS. If not present, go to "Troubleshooting AC Power" on page 4-16.
4. Check for the 5 VDC enable signal at P505-3 (grey wire).
5. If not check the same signal at the engine interface board P537-6. If not present, replace the engine control board, then the engine interface board.
6. Check for 24 VDC at any of the orange wires of connector P502 at the top of the LVPS.
7. Unplug the connector and retest.
8. If still no voltage, replace the LVPS. If the voltage returns check all 24 VDC circuits for shorts to frame ground in the wiring harness, engine board, relay board and interlock circuit.

Interlock Circuit Diagram



The +24 VDC Interlock Circuit

The 24 VDC interlock circuit runs from the 24 VDC LVPS to the L/H door interlock switch, the R/H door interlock switch, and the front door interlock switch back to the engine control interface board, then into the engine control board. Opening this circuit prevents the laser unit and the high-voltage power supplies from operating.

1. Check to see if the front door is getting +5 VDC.
2. With all doors closed and printer power on, check for +24 VDC between P531-1 of the engine control board and frame ground.
3. If +24 VDC is not present, see See “Troubleshooting the 24 VDC LVPS” on page 13. to verify the 24 VDC LVPS is working.
4. If +24 VDC is present, then check the LH cover interlock switch, the RH cover interlock switch and the front cover interlock switch.

The +5 VDC Interlock Circuit

The 5 VDC interlock circuit runs from the 5 VDC LVPS to the L/H door switch, then to the engine control interface board, out to the R/H door switch, back to the engine control interface board, out to the front door, through the coil of the LD power relay and back to the 5 VDC LVPS. This circuit helps identify which door has interrupted the 24 VDC circuit.

If the circuit is complete, LD power relay activates, and 5 VDC is sent to the waste cartridge installed interlock switch and through all four imaging unit connectors and to the engine control interface board. This signal merely confirms that all imaging units are installed. Individual missing components are identified at power-up or when a door is closed (completing the 24 VDC circuit) and the engine control board interrogates the imaging unit NVRAM. If the imaging units are present, then the waste cartridge is missing by default.

1. With all doors closed and printer power on, check for +5 VDC between P536-4 of the engine control interface board and frame ground. If not present, check the LD relay and the LH cover interlock switch.
2. Check for +5 VDC between P631-3 of the engine control interface board and frame ground. If not present, check the front cover interlock switch.
3. Check for +5 VDC between J568-5 (top pin) of the LD power relay and frame ground. If not present, check the RH cover interlock switch.
4. Check for +5 VDC between J400-6 of the engine control interface board and frame ground. If not present, check the LD power relay, and the circuit through the waste cartridge sensor and the four imaging unit connectors.
5. If +5 VDC is present, then replace the engine control board.

Media Jams and the Paper Path

Media-Based Problems

- Print the Paper Tips page from the printer's front panel for a list of the supported media types and weights. The customer should be using a quality laser printer paper. The printer may have trouble picking smooth-finish paper. Verify the tray and the printer support the media being used by the customer. Not all supported types can be used from all trays.
- Only Phaser 45-Series Transparency Film should be used in this printer.
- Inspect the paper for bent, torn, or folded corners.
- Ensure that the media type matches the settings at the front panel.
- Ensure that the paper guides are set correctly.

Multiple-Sheet Pick

1. Ensure that the paper is in good condition and appropriate for a laser printer; quality office laser printer paper works best.
2. Ensure that the printer is within its environmental specifications by using the built-in service diagnostics temperature test.
3. Ensure that the paper is correctly loaded in the tray and the tray has not been over filled.
4. Try loading paper from a fresh ream or flip the paper over.
5. Clean the pick rollers with a clean, slightly moistened, lint-free wipe.
6. Replace the paper pick rollers.
7. Check the tray's retard roller for damage.

Mis-Pick

1. Check that the correct type of media is being used.
2. Try loading paper from a fresh ream or flip the paper over.
3. Clean the pick rollers with a clean, dry, lint-free wipe.
4. Troubleshoot the pick roller assembly.

Damaged Prints

The printed page exits either wrinkled, creased, or torn. The printer neither jams nor displays an error code.

1. Stop the paper in the paper path to determine where the media becomes damaged.

2. Feed paper through the printer from each of the available trays, including Tray 1/MPT. Is the paper damaged when fed out of one tray but not when fed out of the others? If so, inspect the tray for damage, ensure that the media guides are set correctly and verify that the proper media is being used.
3. Inspect the paper feeders for debris or broken components.
4. The following components are associated with this specific problem. One or more of these components may have failed partially or completely. If you cannot isolate the problem, replace each component listed below, one at a time, until the problem disappears.
   - Fuser
   - Accumulator Belt (usually appears with toner in creases or wrinkles).

Fuser Jams

1. Is the paper in good condition and appropriate for a laser printer?
2. Is Phaser 45-Series Transparency Film being used?
3. Is the printer operating within its environmental specifications?
4. Ensure that the loaded media type matches the settings on the front panel.
5. Check the fuser exit sensor and the POB sensor in service diagnostics.
6. Are the margins on the page greater than 3 mm?
7. Check the fuser area for debris.
8. Visually inspect the fuser baffle for burrs.
9. Test the paper path switches and sensors in service diagnostics.
10. Replace the fuser.
11. Replace the engine control board.

Exit Jams

1. Is the paper in good condition and appropriate for a laser printer? Is the paper curling?
2. Is the printer printing within its environmental specifications?
3. Ensure that the loaded media type matches the front panel settings.
4. Is the jam caused by a heavy, stiff paper being used for two-sided printing? In such cases, a lighter grade of paper should be used.
5. Clean all the eject rollers with a clean, dry, lint-free wipe if debris is visible.
6. Does the exit sensor flag properly actuate its sensor? Test the sensor using Service Diagnostics.
7. Test the POB sensor in Service Diagnostics.

Operating System and Application Problems

Windows 2000, Windows XP, Windows Server 2003 Troubleshooting (TCP/IP)

Note

For Windows XP, select Classic Look or the Windows XP procedures will not match the steps below. To select Classic Look, click **Start**, then **Settings**, then **Taskbar and Start Menu**. Select the **Start Menu** tab, then select **Classic Start** menu. Click **OK**.

This troubleshooting section assumes you have completed the following tasks:

- Loaded a Phaser printer PCL or PostScript printer driver.
- Printed and kept a current copy of the “Configuration Page”.

Printing the Configuration Page

You can print the “Configuration Page” to help you solve printing problems and obtain the best results from your printer. Access this page from the printer’s front panel.

To print the “Configuration Page”:

1. At the printer’s front panel, select **Printer Setup**, then press the **OK** button.
2. Select **Configuration Page**, then press the **OK** button to print.

Note

Print “Menu Map” to see other information pages available for printing.

Verifying Settings

1. Verify the settings on the “Configuration Page”.
   - **IP Address Source** is set to: **DHCP**, **Front Panel**, **BOOTP**, or **Auto IP** (depending on your network configuration).
   - **Current IP Address** is set correctly. (Note this address if it is assigned by Auto IP, DHCP, or BOOTP.)
   - **Subnet Mask** is set correctly (if used).
   - **Default Gateway** is set correctly (if used).
   - **LPR** is enabled. Verify that the LPR and AppSocket settings are set as desired.
   - **Interpreters: Auto, PCL**, or **PostScript** (depending on your driver).

2. Verify that the client is logged into the network and printing to the correct print queue. The user should also have access to the Phaser printer queue.

Verifying Driver Installation

1. Right-click **My Network Places** on the desktop, then click **Properties**.
2. Right-click **Local Area Connection**, then click **Properties**.
3. Click the **General** tab. View the list of installed network protocols to verify that TCP/IP is installed. (For more information, contact your network administrator.)
4. Click **Install** to install any components not listed, then restart your computer.
5. Click **Start**, click **Settings**, then click **Printers**.
6. Right-click the printer icon, then click **Properties**.
7. Click the **Advanced** tab. Verify that the correct printer driver is installed.
8. Click the **Ports** tab. Verify that the IP Address in the Print to the Following Ports list is identical to the one on the "Configuration Page." You may need to click the **Configure Port** button to see the IP address. If necessary, re-select the TCP/IP number used for the printer.

Printing a Test Page

1. Click the **General** tab.
2. Click **Print Test Page**. If the printer does not print, do one of the following:
   - Select PhaserSMART Technical Support on the Troubleshooting tab of your Windows printer driver to access PhaserSMART Technical Support.
   - Go to www.xerox.com/office/support.

Windows NT 4.x Troubleshooting (TCP/IP)

This troubleshooting section assumes you have completed the following tasks:

- Loaded a Phaser printer PCL or PostScript printer driver.
- Printed and kept a current copy of the "Configuration Page". For information about printing a "Configuration Page", go to Reference/Features/Front Panel on the User Documentation CD-ROM.

Verifying Settings

1. Verify the settings on the "Configuration Page".
   - **IP Address Source** is set to: **DHCP**, **Front Panel**, **BOOTP**, or **Auto IP** (depending on your network configuration).
   - **Current IP Address** is set correctly. (Note this address if it is assigned by Auto IP, DHCP, or BOOTP.)

- **Subnet Mask** is set correctly (if used).
- **Default Gateway** is set correctly (if used).
- **LPR** is enabled. Verify that the LPR and AppSocket settings are set as desired.
- **Interpreters: Auto, PCL**, or **PostScript** (depending on your driver).

2. Verify that the client is logged into the network and printing to the correct print queue. The user should also have access to the Phaser printer queue.

Verifying Installation

1. Right-click the **My Network Places** icon on the desktop and select **Properties**.
2. Click the **Protocols** tab to verify that the TCP/IP protocol has been installed.
3. Click **Add** to install any components not listed, then restart your computer.
4. Click **Start**, click **Settings**, then click **Control Panel**.
5. Double-click **Services**.
6. Locate TCP/IP Print Server, then verify these column entries:
   - **Status** column: **Started**
   - **Startup** column: **Automatic**
7. Click **Start**, click **Settings**, then click **Printers**.
8. Right-click the printer icon, then select **Properties**. Verify that you have installed the correct driver for your printer.
9. Select the **Ports** tab. Verify that the IP Address in the **Print to the Following Port** list is identical to the one on the "Configuration Page." You may need to click the **Configure Port** button to view the IP address. If necessary, re-select the TCP/IP number used for your printer.

Printing a Test Page

1. Click the **General** tab.
2. Click **Print Test Page**. If the printer does not print, do one of the following:
   - Select PhaserSMART Technical Support on the Troubleshooting tab of your Windows printer driver to access PhaserSMART Technical Support.
   - Go to www.xerox.com/office/support.

Windows 98 and Windows Me Troubleshooting

This troubleshooting section assumes you have completed the following tasks:

- Verified that the printer is plugged in, turned on, and connected to an active network.
- Installed a Phaser printer PCL or PostScript print driver.

- Verified that the printer is receiving network traffic by monitoring the LED's on the back of the printer or on the CentreDirect External Print Server. When the printer is connected to a functioning network and receiving traffic, its link LED is green, and its amber traffic LED is flashing rapidly.
- Printed and kept a current copy of the "Configuration Page". For information about using the front panel or printing a "Configuration Page", go to Reference/Features/Front Panel on the *User Documentation CD-ROM*.

Verifying Settings

1. Right-click Network Neighborhood on the desktop, then click **Properties**.
2. Click the **Configuration** tab. A list of installed network components appears for the following items:
   - Client for Microsoft networks
   - Xerox TCP/IP Port Monitor
3. If you are running CentreWare DP verify the following:
   - Novell Networks: You are required to load Novell IntraNetWare Client or Microsoft Client for IPX networks.
   - TCP/IP Networks: No additional software is required, but your printer must have a valid TCP/IP address assigned.
4. If any of the above protocols or services are not installed, install the necessary components and restart the system. When the system is restarted, return to this document.
5. Click **Start**, click **Settings**, then click **Printers**. The Printers window appears.
6. Right-click the printer icon, then click **Properties**.
7. Select the **Details** tab.
8. Verify the following:
   a. The printer driver name in the **Print Using the Following Driver** list. If necessary, re-select or install a new printer driver.
   b. The **Port** name in the **Print to the Following Port** list. If necessary, re-select the correct name.
9. Send a print job to the printer. If the printer does not print, access PhaserSMART Technical Support from the Troubleshooting tab of the Windows printer driver or go to www.xerox.com/office/support.

Macintosh Troubleshooting (Mac OS 9.x, Mac OS X, Versions 10.1 and 10.2)

The following procedure eliminates cabling, communication, and connection problems. Once you complete these steps, print a test page from your software application. If the job prints, no further system troubleshooting is necessary. If there are print quality problems, go to Reference/Troubleshooting on the *User Documentation CD-ROM*.

Macintosh Troubleshooting Step-By-Step

Mac OS 9.x

Perform these steps only for Mac OS 9:

1. Open the **Chooser**, then click the **LaserWriter** driver.
2. Do one of the following:
   - If the printer name appears, your printer is communicating through the network. You do not need to perform any additional steps.
   - If your printer name does not appear, proceed to Step 3.
3. Verify that the printer is plugged in, turned on, and connected to an active network.
4. Verify the cable connection from the network to the printer.
5. Follow these steps:
   a. From the printer's front panel, verify that **EtherTalk** is enabled. If it is not, enable it in the front panel, then reset the printer.
   b. Print the "Configuration Page" and verify that **EtherTalk** is enabled.
   c. From the "Configuration Page", verify the **Zone**. If you have multiple zones on your network, verify that your printer appears in the desired zone.
6. If you are still unable to print, go to www.xerox.com/office/support or access PhaserSMART Technical Support through CentreWare Internet Services:
   - Launch your web browser.
   - Enter your printer's IP address in the browser's **Address** field (http:// xxx.xxx.xxx.xxx).
   - Select **Support**.
   - Click the **PhaserSMART Diagnostic Tool** link to access PhaserSMART.

Mac OS X, Versions 10.1 and 10.2

Perform these steps only for Mac OS X, versions 10.1 and 10.2:

1. Open the **Network Utility**, then click the **Ping** tab.
2. Enter your printer's IP address.
3. Click **Ping**. If you do not get a response, confirm that your TCP/IP settings are correct for both your printer and computer.
4. For **AppleTalk**, follow the steps below. For **TCP/IP** proceed to Step 5.
   a. From the printer's front panel, verify that **EtherTalk** is enabled. If it is not, enable it in the front panel, then reset the printer.
   b. Print the "Configuration Page" and verify that **EtherTalk** is enabled.
   c. From the "Configuration Page", verify the **Zone**. If you have multiple zones on your network, verify that your printer appears in the desired zone.
5. If you are still unable to print, go to www.xerox.com/office/support or access PhaserSMART Technical Support through CentreWare Internet Services:
   a. Launch your web browser.
   b. Enter your printer's IP address in the browser's **Address** field (http://xxx.xxx.xxx.xxx).
   c. Select **Support**.
   d. Click the **PhaserSMART Diagnostic Tool** link to access PhaserSMART.

Novell NetWare Troubleshooting

Troubleshooting for Windows-based computers includes both hardware and software solutions to eliminate cabling, communication, and connection problems associated with direct-connected ports. Complete one of the following procedures (based on the type of port being used), then print a test page from your software application. If the test page prints, no further system troubleshooting is necessary. For print-quality problems, go to Reference/Troubleshooting on the *User Documentation CD-ROM*.

Requirements

Verify that you:

- Are operating a Windows-based system with CentreWare DP software installed and at least one printer driver installed
- Are a NetWare Network Administrator, an administrative person with ADMIN/SUPERVISOR, or ADMIN/SUPERVISOR EQUIVALENT within login rights to the NetWare Server(s) servicing the Phaser printer
- Have a basic knowledge of NetWare

Novell NetWare Troubleshooting Quick Check

1. Verify that the printer is plugged in, turned on, and connected to an active network.
2. Verify that the printer is receiving network traffic by monitoring the LEDs on the back of the printer. When the printer is connected to a functioning network and receiving traffic, its link LED is green, and its amber traffic LED is flashing rapidly.
3. Verify that the client is logged into the network and printing to the correct print queue.
4. Verify that the user has access to the Phaser printer queue.
5. Verify that the Phaser printer NetWare print queue exists, is accepting jobs, and has a print server attached. If it does not, use the Setup Wizard in CentreWare DP to reconfigure the print queue.
6. Print the "Configuration Page". Verify that Printer Server is enabled. Set the frame type to the frame type your NetWare server is using.

   Note

   To determine your NetWare IPX frame type, type *config* at the Novell console screen. On networks using multiple IPX frame types, it is critical that the frame type be set correctly.

7. Verify that the Primary Server is set (NetWare 3.1x only). The primary server should have been set during initial queue setup and installed using CentreWare DP. If it is not set, use CentreWare DP to set it, then reset the printer.

   Note

   Setting the Primary Server is extremely important on large networks.

8. Go to www.xerox.com/office/support if the above steps fail to resolve the printing problem.

Novell NetWare Troubleshooting Step-By-Step

These procedures eliminate cabling, communication, and connection problems associated with network connected printers. The steps are divided into two groups:

- Novell NetWare Hardware Step-by-Step
- Novell NetWare Software Step-by-Step

Note

Novell NetWare Software Step-by-Step assumes that you are connected to a Novell NetWare network with a Windows OS installed on the client workstation. When both of these procedures are completed, print a test page from your software application. If the test page prints, no further system troubleshooting is necessary.

Novell NetWare Hardware Step-By-Step

Note the LED activity on the printer. The green link LED is ON whenever it is connected to an active network. The amber traffic LED is flickering when data is being received.

1. Verify the following:
   - The cable connections: Use a new cable or connectors if possible
   - Which port your printer is attached to. Connect a functioning network device to your printer to test the port.
2. Print the "Configuration Page" from your printer. For information about printing Configuration pages, go to Reference/Features/Front Panel.
3. Review the **Connectivity Settings** and verify these items:
   - **NetWare** is enabled
   - **Frame Type** matches the frame type of the desired file server

   Note

   To determine your NetWare IPX frame type, type config at the Novell console screen. On large networks, using multiple IPX frame types, it is critical that the frame type be set correctly.

   - **PDL** is set to your desired PDL (**PostScript** or **PCL**) or to **Auto**
   - **Primary Server** (for NetWare 3.x only) is set to the name of the server which serves the print queue you have assigned to the Phaser printer
   - **NDS Tree** (for NetWare 4.x NDS and later) is set for the correct NDS tree name
   - **NDS Context** (for NetWare 4.x NDS and later) is set for the correct NDS Context
   - **Print Server** (PServer) Name is set for the name selected for the Phaser printer to act as a print server
   - **Novell Mode** is correctly set
4. If changes are made, reset the printer. Once the printer has been reset, allow approximately two minutes for the printer to go through a self test, then log onto the network server.
5. Print out another copy of the "Configuration Page" to verify that the items you modified were set and kept.

Novell NetWare Software Step-By-Step

1. Verify that CentreWare DP and a Phaser printer driver have been loaded on the workstation.

2. Click **Start**, click **Settings**, then click **Printers** to verify that the printer is installed.

Launching CentreWare DP

1. Click **Start**, click **Programs**, then click **CentreWare DP**.
2. Select the desired printer. If a communications error message appears, your printer is not able to communicate with your workstation. Verify your printer's settings, then return to this document.
3. With the printer selected, click the Printer drop-down list, then select Advanced Setup.
4. Select one of the following connection methods:
   - **Novell Directory Services**
   - **Bindery**
5. Verify that the information displayed is also contained on the "Configuration Page". Verify these items:
   a. The queue name of the Phaser printer is set to service. If necessary, create a new queue to test the printer.
   b. The Primary Server lists the server name on the "Configuration Page"

Printing a Document

1. Click the **Tools** drop-down list.
2. Select the **Send File...** menu item, then select the appropriate directory and file for downloading. Verify that this is a valid file with no errors.
3. Click **OK**. The file is sent to the printer. If the document does not print, review the Novell Menu settings on the "Configuration Page".

Verifying the Network Settings

1. At the CentreWare DP main screen, click the **Printer** drop-down list, click **Properties**, then click **Connections**.
2. Click the **Network Card** tab. A new dialog box displays information about frame type and connectors.
3. Verify that the printer is enabled and the connector and frame type are correct. If changes are made, reset the printer from the front panel.
4. Re-print a test page. If the test print does not print, go to www.xerox.com/office/support.

Print-Quality Troubleshooting

In this chapter...

- Print-Quality Problems Overview
- Front Panel Test Prints
- Service Test Prints
- Print Engine Only Test Print
- Print-Quality Troubleshooting

Chapter 5

Print-Quality Problems Overview

Print-quality defects can be attributed to printer components, consumables, media, internal software, external software applications and environmental conditions. To successfully troubleshoot print-quality problems, as many variables as possible must be eliminated. The first step is to generate prints using printable pages embedded in the printer on laser paper from the approved media list. The paper should be from an unopened ream that has been acclimated to room temperature and you should ensure that genuine Xerox toner is installed in the printer.

Print the “Paper Tips Page” for media that has been tested and approved for use in the Phaser 7750 Printer. If the print-quality defect is still present when printing on approved media from an unopened ream of paper, then software applications, and environmental conditions need to be researched.

Print a “Usage Profile” to determine the temperature and humidity the printer has been operating under. Compare this to the environmental specifications for the printer found in "Environmental Specifications" on page 1-13 of this manual. Temperature and humidity extremes can adversely effect the Xerographic and fusing characteristics of the printer.

When analyzing a print-quality defect, first determine if the defect occurs in all colors or only one color and if it is repeating or random. Continuous defects in the process direction, such as voids and lines, are the most difficult to diagnose. The visible surfaces of all rollers should be inspected for obvious defects.

Defects Associated with Specific Printer Components

Some print-quality problems can be associated with specific assemblies, the most common problems and the associated assemblies are listed below. Also, refer to the specific print-quality troubleshooting procedure for more information.

The ROS

Potential Defects:

- Streaks from contamination on ROS windows (usually single color)
- Light Image (single color, or all colors)
- Banding (Slow Scan direction)

The Imaging Units

Potential Defects (usually single color):

- Spots
- Deletions
- Bands
- Repeating defects - 44 mm (1.7 in.) or 94 mm (3.7 in.)

The Developer Housings

Potential Defects (usually single color):

- Bead Carryout (grit on copy)
- Spots
- Deletions
- Mottle
- Uneven density front to rear
- Repeating defects - 28.3 mm (1.1 in.)

The Accumulator Belt Assembly

Potential Defects (usually all colors):

- Spots
- Deletions
- Banding
- Uneven density front to rear
- Offsetting/Ghost Images (cleaner malfunction)
- Repeating defects - every 4th 8 1/2 x 11 or every other 11 x 17

The Fuser

Potential Defects (all colors):

- Streaks
- Spots
- Bands
- Offsetting
- Repeating defects - 84 mm (3.3 in.) or 94 mm (3.7 in.)
- Transfer Roller - 88mm

Paper and Paper Trays

Potential Defects (all colors):

- Mottled Image (low quality or damp paper)
- Creases and folds

Front Panel Test Prints

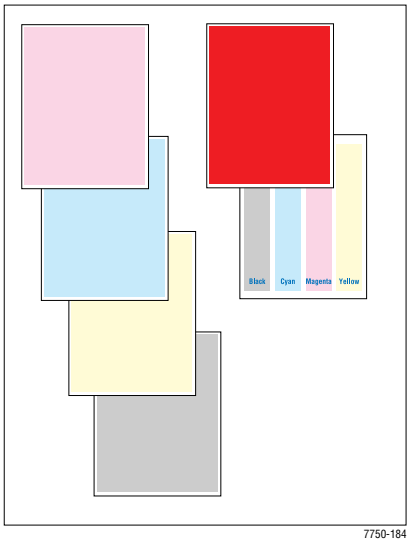
A variety of test prints are available from the front panel's Troubleshooting Menu to aid in determining the quality of output from the printer and to assist in troubleshooting problems. This section shows how to select and analyze all test prints available to the Phaser 7750 printer.

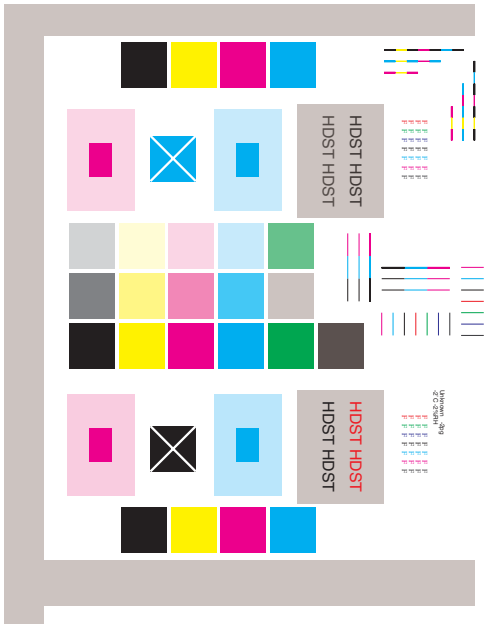
Troubleshooting Print-Quality Page

Selecting the "Troubleshooting Print-Quality Page" causes a tutorial to be printed that provides tips on diagnosing print-quality problems. The tutorial contains examples of various faults that may be encountered and also contains examples of the various color test pages, solid fill pages, and test pattern page.

Color Test Pages

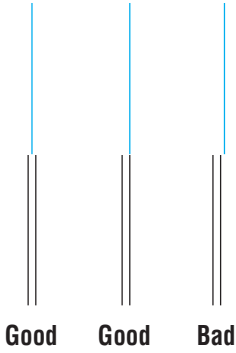
Selecting “Color Test Pages” causes a group of seven pages to print as shown in the following two figures. This group includes a full page each of 25% CMYK, a page of 80% solid fill red, a page consisting of 25% tint vertical CMYK bands with each band labeled, and finally the test pattern shown in the second figure below.





Analyzing the Test Pattern

1. Color Registration (Horizontal): The colored lines should match up as shown below. If necessary see the registration procedures in Chapter 6.

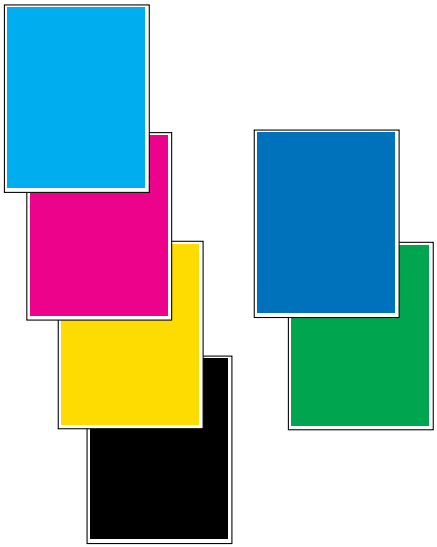


2. Color Registration (Vertical): The colored lines should match up as shown below. If necessary see the registration procedures in Chapter 6.

3. Uniform RGB: The secondary color squares should be uniformly colored with no mottling.
4. Density: The color squares should have even density from top to bottom.

Solid Fill Pages

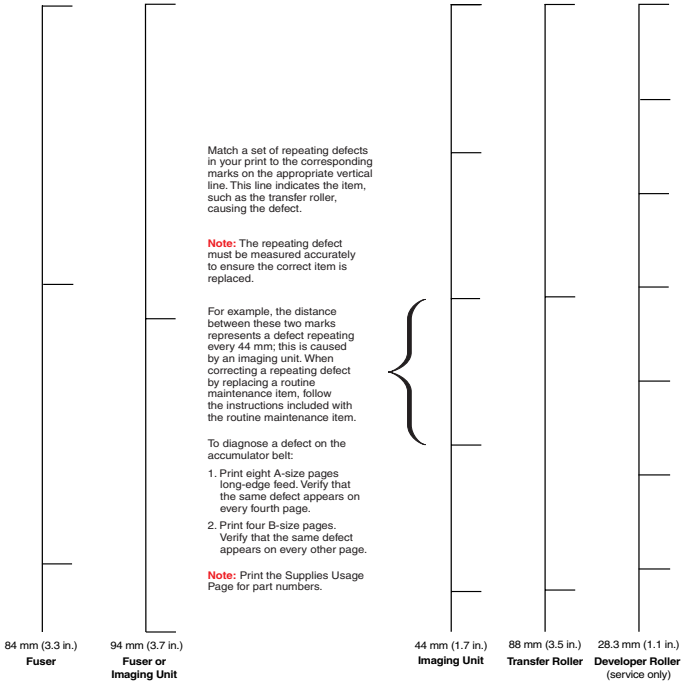
Selecting “Solid Fill Pages” causes a group of six pages, as shown below, to print that consist of 80% solid fill on individual pages of CMYK for primary colors and BG for secondary.



7750-182

Repeating Defects Page

The “Repeating Defects Page” provides a measurement tool that allows you to match the spacing between repeated defects on the printed pages with the component that would cause such spacing to occur. Instructions for using the Repeating Defects Page are printed on the page.


Match a set of repeating defects in your print to the corresponding marks on the appropriate vertical line. This line indicates the item, such as the transfer roller, causing the defect.
Note: The repeating defect must be measured accurately to ensure the correct item is replaced.
For example, the distance between these two marks represents a defect repeating every 44 mm; this is caused by an imaging unit. When correcting a repeating defect by replacing a routine maintenance item, follow the instructions included with the routine maintenance item.
To diagnose a defect on the accumulator belt:
1. Print eight A-size pages long-edge feed. Verify that the same defect appears on every fourth page.
2. Print four B-size pages. Verify that the same defect appears on every other page.
Note: Print the Supplies Usage Page for part numbers.
84 mm (3.3 in.)
Fuser
94 mm (3.7 in.)
Fuser or Imaging Unit
44 mm (1.7 in.)
Imaging Unit
88 mm (3.5 in.)
Transfer Roller
28.3 mm (1.1 in.)
Developer Roller
(service only)
Page 1 of 1

Remove Print Smears

Selecting “Remove Print Smears” causes the printer to cycle blank paper through the printing path. continue selecting this function until the paper comes out clean.

Engine Test Prints

These features are available from the **Service Diagnostics/Built-In Test Prints** menu. If the “Engine Test Prints” are rendered correctly and other test prints are defective, the problem is not on the engine board.

Paper Path Options

Selecting Paper Path Options allows the printer to be configured as desired for printing any of the following Test Prints. The selectable options are:

- Source tray
- Number of sheets to print
- Simplex or duplex operation
- Offset
- Media type
- Output destination
- Stapling

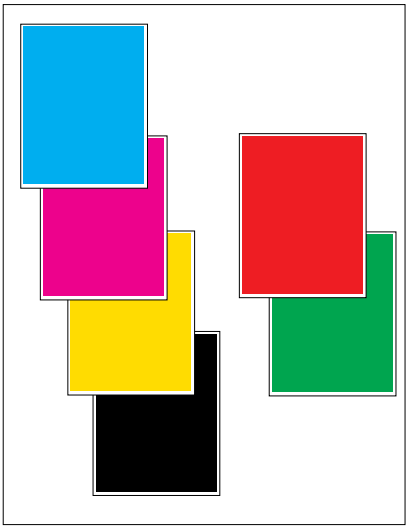
Print Laser Check

Since all of the laser diodes are energized, all colors will be printed resulting in a composite grey image. If the image is not grey, one or more of the diodes may be bad. If there are gaps in the printout or the color is not uniform, the unit may require cleaning, adjustment, or repair.

7750-183

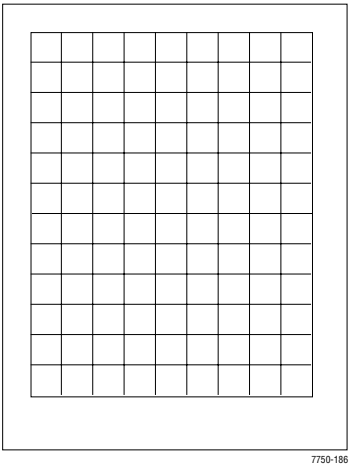
Print Halftones

Selecting “Print Halftones” causes a group of six pages to print that consist of 80% solid fill on individual pages of CMYK for primary colors and RG for secondary. Colors should be uniform from top to bottom of the page with no mottling and the density for each color should be approximately equal.



Print Grid 1-Dot

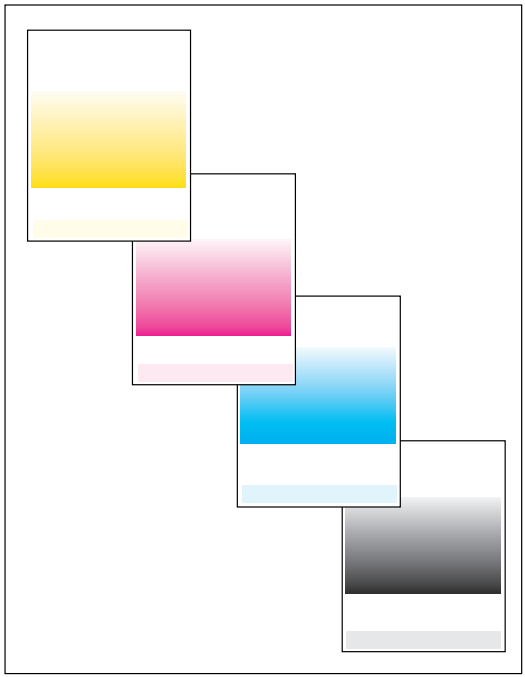
Prints a square grid over the complete sheet of paper. Squares should be uniform and vertical and horizontal lines should be straight and of uniform thickness. All colors should align.



Print Fast Scan 8 Tone

Prints one sheet each of YMCK six distinct graduated bands of the color forming a block in the center of the page and a seventh band, with density that falls between the two lightest in the block, located at the bottom of the page.

The variation between bands should be distinct and the color in each band should be uniform.



7750-187

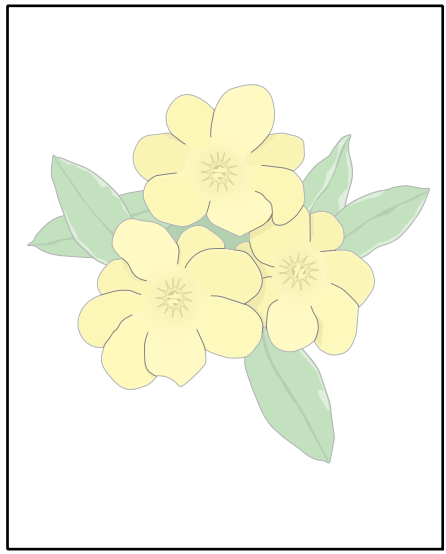
Initial Actions Before troubleshooting any Print-Quality Problems:

- Print a “Paper Tips Page” to verify the media being used is supported by the printer and the tray being used.
- Verify the media settings are correct in both the printer driver software and at the printer’s front panel.
- Check the color correction and print mode settings in the printer driver.
- Cycle power to the printer, this will run an Auto Density Control cycle.
- Run test prints and compare the results to the customers problem.

Light or Undertone Prints in All Colors

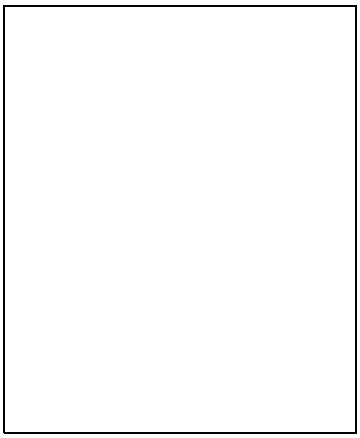
The overall image density is too light in all colors.

1. Verify the transfer roller has not reached its end-of-life.
2. Run the **Calibrate for Paper** routine.
3. Check the accumulator belt assembly for mis-alignment
4. Replace the transfer roller.
5. Replace the high-voltage power supply.



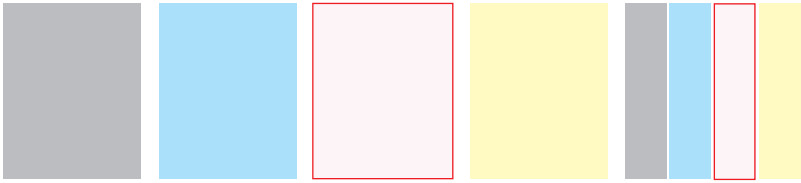
Blank Prints

The entire image area is blank.



1. Generate a 100% “Solid Fill Test” print from the front panel.
2. Open the door in the middle of the print job. Is there toner on the Accumulator Belt?
3. Enter service diagnostics and test the shutter motor. Does the laser shutter motor work properly? Remove an imaging unit and see if the shutter opens and closes freely.
4. Inspect the wiring harness for loose or disconnected wiring connectors; check connectors P400 and P401 at the engine control board.
5. Print the “Engine Test Prints”. If the test prints are free from defects, replace the Image processor Board. If the test prints show defects, replace the engine control board.

One Color Is Faded or Missing

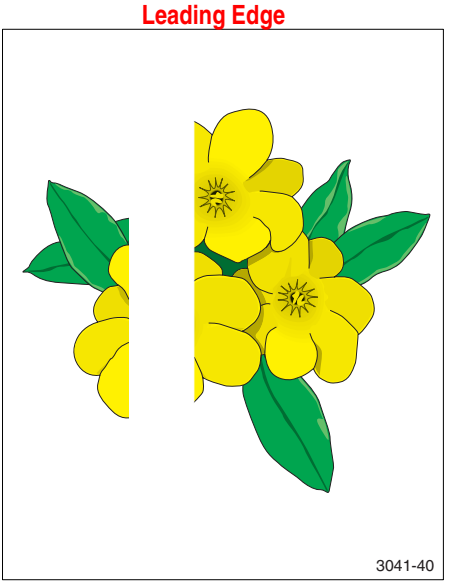


3041-39

1. Under high toner-coverage conditions, toner may be depleted during the toner low state but before the toner out message is displayed
2. Is the toner low or near empty? Remove the toner cartridge and inspect the top of the feed tube. Replace the toner cartridge if necessary. Ensure that genuine Xerox toner is installed.
3. Run the **Calibrate for Paper** routine.
4. Check the transfer setting before running calibrate paper. If the value is -4, you need to adjust the transfer settings.
5. Remove the imaging unit and verify that the laser shutter opens and closes using the Service Diagnostics Shutter Solenoid test.
6. Inspect and test the toner auger system. Ensure that the toner auger motor operates. Ensure that the toner dispense assembly is carrying toner from the toner cartridge to the developer.
7. Remove the accumulator belt assembly and inspect the high-voltage connectors on the back side to ensure they are not damaged.
8. Inspect the high-voltage wiring leading to the accumulator belt assembly for damage.
9. Verify that the developer is seated properly.
10. Replace the developer beads.
11. If the missing or faded primary color appears as speckle on the entire page, the high-voltage wire leading to that color's developer housing is grounded. Inspect the high-voltage wiring harness and power supply. Repair/replace as necessary.
12. Replace the laser unit.
13. Swap the leads of the affected color with another color on the T2 HVPS. If the symptom changes, replace the T2 high-voltage power supply.
14. Replace the T3 high-voltage power supply.

Missing Band in Direction of Paper Travel, All Colors

There are areas of the image that are extremely light or are missing entirely. These missing areas form wide bands from leading edge to trailing edge (B-size print shown). The printer displays no error code.



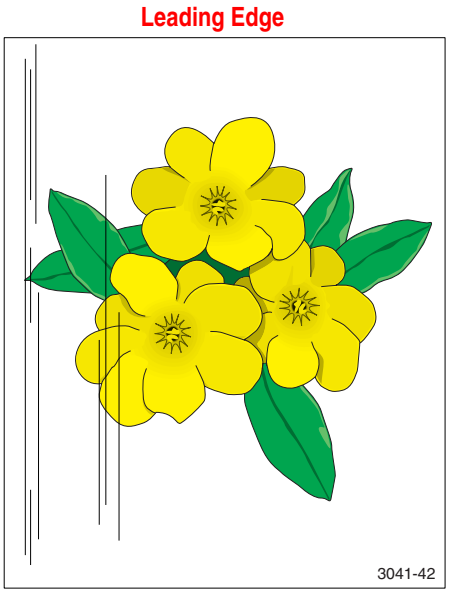
Note

A-size prints are processed through the printer with the short edge of the print parallel to the direction of the paper path, making print artifacts parallel to the short edge of the print.

1. Clean the laser windows with the cleaning wand located in the front door.

Streaks in Direction of Paper Travel

There are dark lines running along the page in the direction of paper travel from the leading edge to the trailing edge (B-size print shown). The printer displays no error code.



Note

A-size prints are processed through the printer with the short edge of the print parallel to the direction of the paper path. B-size prints are processed through the printer with the long edge of the print parallel to the paper path, making horizontal artifacts parallel to the long axis of the print.

1. Run the solid fill test pages: From the front panel's **Troubleshooting Menu**, select **Print Quality Problems**, then select **Solid Fill Pages**. If the missing bands only occur in a single primary color, replace the imaging unit of the affected color or, swap imaging units and run another test print.

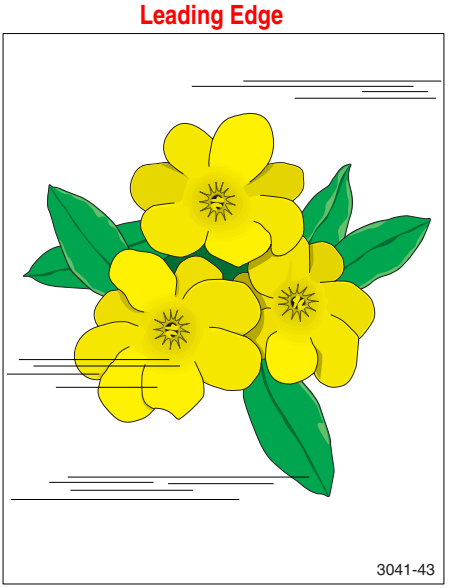
   Note

   Under some circumstances, streaking may occur in the margin of SRA3-size paper. This is due to the edges of the paper extending beyond the end of the imaging components. Print-quality in the margins of SRA3 paper is not guaranteed.

2. Print the repeating defects page, do the lines/streaks align with any of the repeating defect marks?
3. Inspect the accumulator belt cleaner; replace the cleaner, if necessary.
4. Replace the developer housing assembly, if the defect is in one color only.
5. Run the Remove Print Smears routine. If the defect returns, replace the fuser.

Streaks Parallel With the Leading Edge

There are dark lines running parallel with the leading edge of the print, perpendicular to direction of paper travel (B-size print shown). The printer displays no error code.



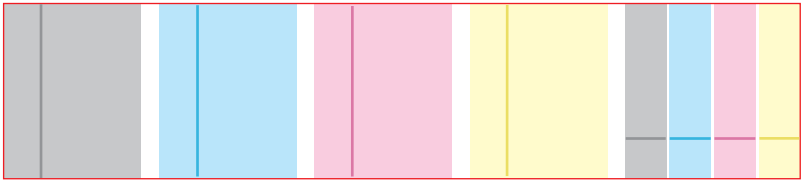
Note

A-size prints are processed through the printer with the short edge of the print parallel to the direction of the paper path, making print artifacts parallel to the long edge of the print.

B-size prints are processed through the printer with the long edge of the print parallel to the paper path, making artifacts parallel to the short axis of the print.

1. Inspect the paper that is loaded in the paper tray. Is the paper wrinkled, dimpled, or show any signs of having a high moisture content?
2. Does the band repeat at a specific interval? If so, troubleshoot using the "Repeating Defects Page".
3. Run the Remove Print Smears routine. From the front panel's **Troubleshooting Menu**, select **Print Quality Problems**, then select **Remove Print Smears**.
4. If the engine test prints are all okay, but prints from an application or the image processor board are not, replace the image processor board.

Banding



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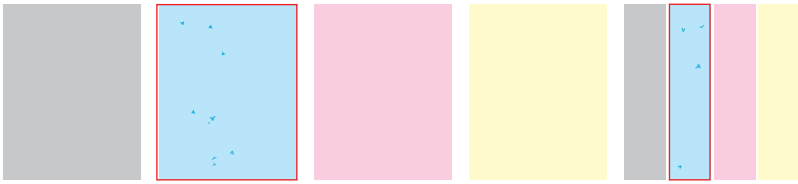
1. Print the “Repeating Defects Pages”.
2. Replace the unit of the affected color, using the repeating defects page.
3. If the defect still appears in the same color, the problem is the developer.
4. If all colors, the problem is with the accumulator belt, belt cleaner, transfer roller, or fuser.

Random Spotting



3041-47

There are spots of toner randomly scattered across the page. The printer displays no error code.

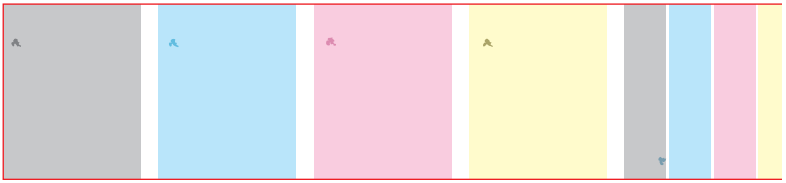
Single Color

1. Inspect the toner cartridge for toner clumping.
2. Check the imaging units.

All Colors

1. Inspect the paper path.
2. Inspect the accumulator belt cleaner and replace, if necessary.
3. Inspect the transfer roller and replace, if necessary.
4. Replace the fuser.

Repetitive Mark Appears on Each Print



3041-

An identical mark or image appears on each, or every other, printed image.

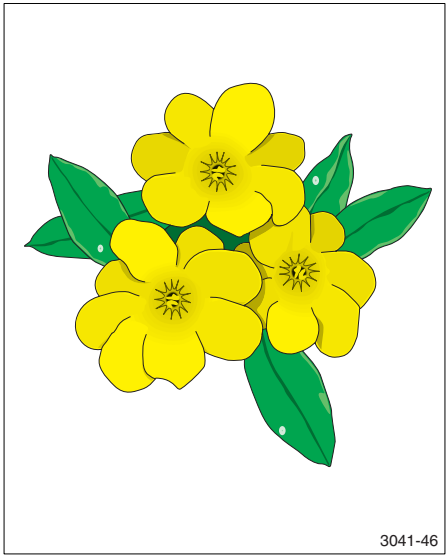
From the front panel's **Troubleshooting Menu,** select **Print Quality Problems**, then select **Remove Print Smears**. This function passes several blank sheets of paper through the printer to clean the fuser rollers.

From the front panel's **Troubleshooting Menu,** select **Print Quality Problems**, then select **Repeating Defects Page**. The "Repeating Defects Page" contains rulers to help determine the source of the repeating defects.

84 mm (3.3 in.)	Fuser
94 mm (3.7 in.)	Fuser (mark in all colors) or imaging unit (mark in single color)
88 mm (3.5 in.)	Transfer roller (2nd bias)
44 mm (1.7 in.)	Imaging unit
28.3 mm (1.1 in.)	Developer housing roller

Random Missing Spots

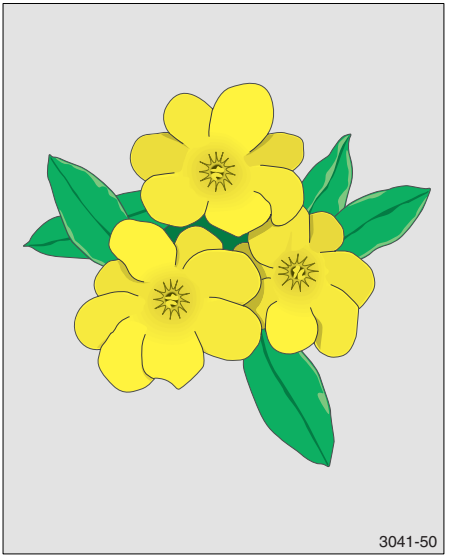
There are small areas of the image that are extremely light or are missing entirely. These missing areas form spots that are localized to small areas of the page. The printer displays no error code. A small number of occasional missing spots is normal.



1. If a toner low message is displayed, replace the toner cartridge in question.
2. Ensure that the loaded media matches the front panel settings.
3. Try using an approved media to see if the spots still appear.
4. Run the Calibrate for Paper routine. From the front panel's **Printer Setup Menu**, select **Calibration Setup**, then select **Calibrate for Paper**.
5. This could be cold offset. Set the paper type at the printer's front panel to one type heavier.
6. Run the solid fill test pages. From the front panel's **Troubleshooting Menu**, select **Print Quality Problems**, then select **Solid Fill Pages**.
7. If the missing spots only occur in a single primary color, replace the developer housing assembly.

Background Contamination

There is toner contamination on all or most of the page. The contamination appears as a very light gray dusting. The printer displays no error code.



1. Ensure that the loaded media matches the front panel settings. In some cases, switching the paper type setting, for example from **Heavy Laser Paper** to **Thin Cover/Index**, may improve print quality.
2. Run the Calibrate for Paper routine. From the front panel's **Printer Setup Menu,** select **Calibration Setup**, then select **Calibrate for Paper**.

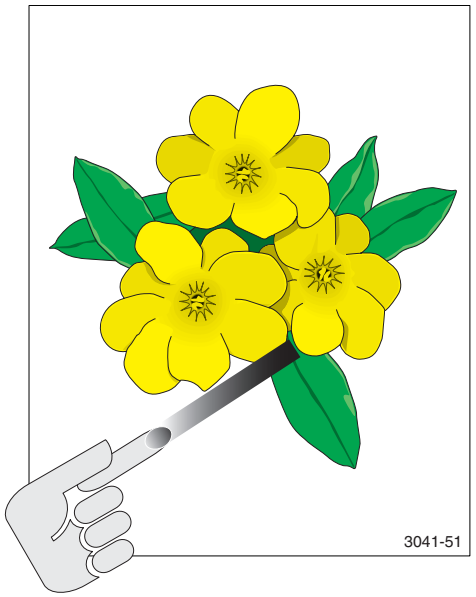
Note

Printing on some specialty papers, such as some glossy finish papers may show some background contamination.

3. Inspect the imaging units for contamination. Replace the imaging units, if necessary.
4. If the transfer roller or belt cleaner assembly is near the end of its life, replace that part.
5. If the background contamination is a primary color (and that primary color is missing from the print), the high-voltage wire leading to that color's developer housing is grounded. Inspect the high-voltage wiring harnesses.

Unfused Image or Image Easily Rubs Off of Page

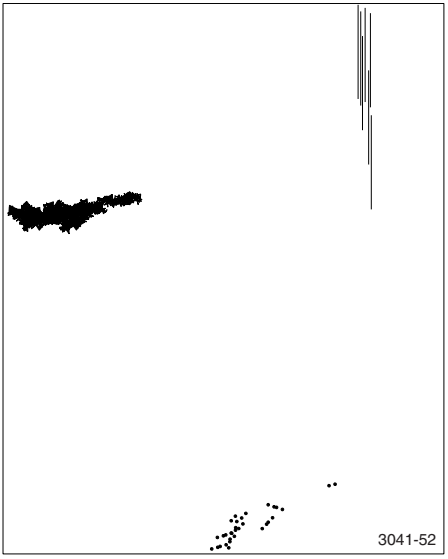
The toner image is not completely fused to the paper. The image easily rubs off. The printer displays no error code.



1. Make sure that the paper you are using is the correct type for the printer and is correctly loaded in the printer in the correct tray. From the front panel's **Information Pages Menu**, select **Paper Tips Page**.
2. Make sure that the paper loaded in the tray matches the paper type selected on the printer's front panel.
3. If the problem continues, set the paper type in the front panel to the **next heavier** type of paper than what you are using. Below is a list of paper types from the heaviest weight to the lightest:
   Thick Cover/Index
   Thin Cover/Index
   Heavy Laser Paper
   Laser Paper
4. Check for paper wrapped around or blocking the fuser roller. Inspect the fuser roller for damage. Replace the fuser, if necessary.

Toner on Back of Print

There is toner on the back of the printed sheet of paper.

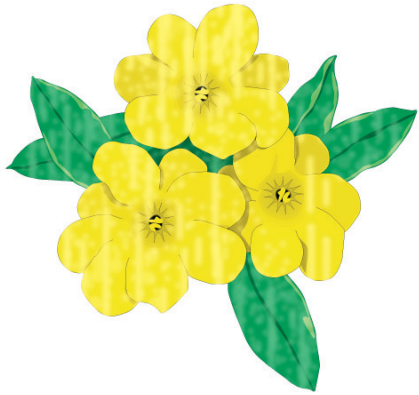


1. Clean the printer interior.
2. Inspect the paper that is loaded in the paper trays. Is the paper clean and free of toner?
3. Try printing from supported media.
4. Ensure that the loaded media matches the front panel settings. In some cases, switching the paper type setting, for example from **Heavy Laser Paper** to **Thin cover/Index**, may improve print-quality.
5. Run fuser cleaning pages.
6. After the fuser has been cleaned, try setting the paper selection one type heavier.
7. If the transfer roller or belt cleaner assembly is near the end of its life, replace that part.

Print Is Mottled

The printed image has a mottled appearance.

1. Ensure that the paper is in good condition and appropriate for a laser printer.
2. Ensure that the loaded media matches the front panel settings. Also check the media selected in the printer driver.
3. Ensure supported media is being used.
4. For specialty papers, experiment with alternate paper type settings such as **Heavy Laser Paper**, **Thick Cover/Index** or others.
5. Run the Calibrate for Paper routine. From the front panel's **Printer Setup Menu**, select **Calibration Setup**, then select **Calibrate for Paper**.



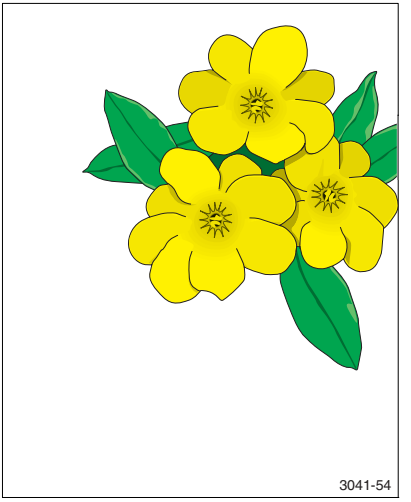
3041-53

Note

Verify the settings. Be sure the setting is not at +4 value before running Calibrate for Paper. Tray1 (MPT) must have the right setting to run calibrate for paper.

Image Mis-Registered on Paper

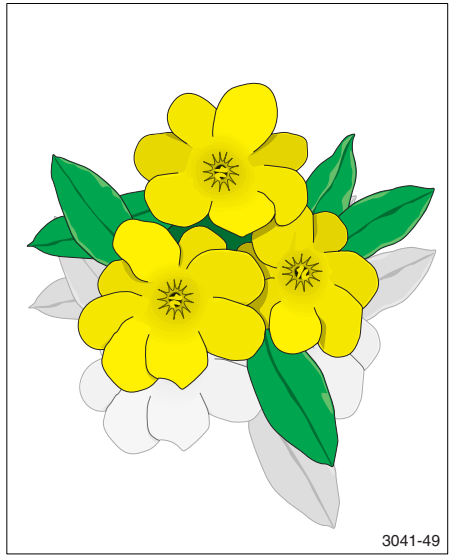
The image area is not centered on the page or the image is bleeding off of the page. The printer displays no error code.



1. Run the “Configuration Page” or “Startup Page” to verify the hard drive, application, and driver settings. From the front panel’s **Information Pages Menu**, select **Configuration Page** or **Startup Page**.
2. Is the correct weight paper loaded in the tray?
3. Ensure that the paper guides are set to the correct position for the paper loaded in the tray.
4. Try printing from the other trays. If the problem only occurs from one tray, clean the rollers in that tray.
5. Run the Calibrate Margins routine. From the front panel’s **Printer Setup Menu**, select **Calibration Setup**, then select **Calibrate Margins**.
6. Verify that Tray 1/MPT or Tray 2 has not been inadvertently set to custom width while standard sized paper is installed.
7. Verify that the front Tray 1/MPT guide is in the correct position.

Residual Image or Ghosting

There are faint, ghostly images appearing on the page. The images may be either from a previous page or from the page currently being printed. The printer displays no error code.



1. Make sure that the paper you are using is the correct type for the printer and is correctly loaded in the printer. From the front panel's **Information Pages Menu**, select **Paper Tips Page**.
2. Make sure that the paper loaded in the tray matches the paper type selected on the printer's front panel.
3. Ensure that genuine Xerox toner is installed in the printer.
4. If the problem continues, set the paper type in the front panel to the **next lightest** type of paper than what you are using.
5. If the colors are offset by only a small amount (10 mm maximum), then calibration of the laser may be needed. This is mis-registration, not ghosting. Go to "Image Mis-Registered on Paper" on page 5-26.
6. If the ghosting is offset by 84 mm, run the Remove Print Smears routine to clean the fuser. From the front panel's **Troubleshooting Menu**, select **Print Quality Problems**, then select **Remove Print Smears**.
7. Inspect and replace the fuser, if necessary.

Note

Some ghosting may appear on transparency film and is a limitation of the printer.

Adjustments and Calibrations

The engine firmware has several built-in diagnostic routines that perform various alignment and calibration procedures. The printer is shipped aligned, registered and calibrated.

In this chapter...

- Registration Control (RegiCon) Adjustment Overview
- RegiCon Adjustment Procedures
- ATC Sensor Setup
- Resetting NVRAM
- Service Diagnostics PostScript NVRAM Resets
- Clear Tech Rep Faults

Chapter 6

Registration Control (RegiCon) Adjustment Overview

The RegiCon tests are the means by which registration is accomplished. Registration establishes the alignment of the four primary colors in the process and scan directions, tilt or skew, length of lines and linearity. When the registration process is completed, all color planes are positioned properly.

The RegiCon Adjustment procedures should be used whenever the technician replaces the Laser Unit or where color registration is bad.

The printer registration process consists of the following adjustments and is briefly summarized in this overview:

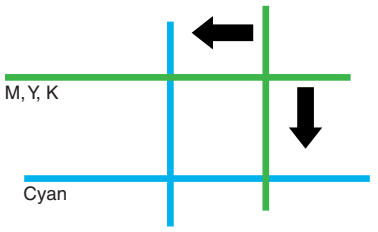
- Fine Skew Adjustment
- In/Out Skew Adjustment
- Center Skew Adjustment
- Coarse Skew Adjustment

RegiCon is the procedure by which the printer aligns the magenta, yellow and black vertical and horizontal scan lines to the cyan reference scan line. Horizontal and vertical alignment ensures that the magenta, yellow and black lines are superimposed on Cyan.

Note

Cyan is the reference color to which all other colors are aligned.

Figure 1: Horizontal and Vertical Margins

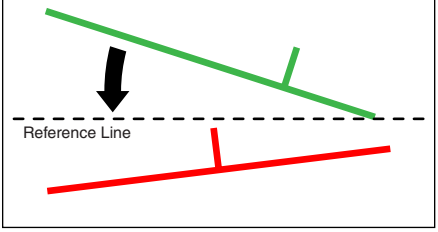


S7700-460

Coarse and Fine Skew Adjustments

Skew error is the misalignment of one or more of the four scan lines (C, M, Y & K). During the RegiCon #4 (Coarse) and RegiCon #1 (Fine) adjustments, the front side of each line is adjusted to be level with the rear end.

Figure 2: Skew Adjustment

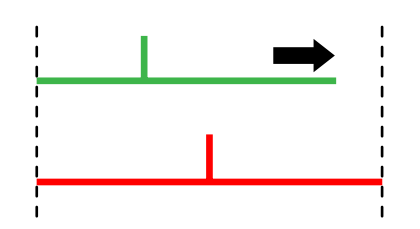


S7700-461

In/Out Skew Adjustment

The In/Out Skew Adjustment (Magnification) ensures that all four scan lines are the same length. During RegiCon #2, the printer measures, then adjusts the four scan lines to the proper length.

Figure 3: Magnification

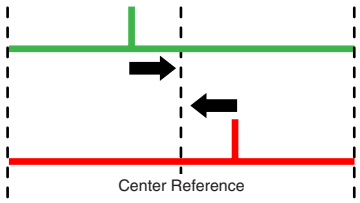


S7700-462

Center Skew Adjustment

The Center Skew Adjustment (Magnification Balance) adjusts the linearity of the scan lines. During RegiCon #3, the printer measures a specific midpoint of each scan line and adjusts it to a horizontal reference midpoint.

Figure 4: Magnification Balance



S7700-463

RegiCon Adjustment Procedures

Note

For the following procedures, you must perform certain steps prior to, during, and after the tests are run. The following information is vital to the process and must be followed in order for each procedure to function properly.

- RegiCon fails if there are any print-quality problems. Diagnose and repair any print-quality problems before running any RegiCon procedure. To resolve a print-quality problem, see “"Print-Quality Troubleshooting" on page 5-1.
- You must enter the Hidden Service Menu from the Troubleshooting/Service Tools Menu to perform each test. Go to the front panel **Troubleshooting/ Service Tools/Printer Status Page** menu, and press and hold the **Up** button, then press the **Down** button. This will display the **Hidden Service** menu. Then scroll to **RegiCon Setup Cycle** and press **Enter** to display the RegiCon test menu.
- The procedures are listed in the order they need to be performed for optimal adjustments.

Troubleshooting Procedure

Step	Actions and Questions	Yes	No
1	1. Enter service diagnostics and print the Grid 1-Dot test print. 2. Do all the colors align correctly?	Complete. Color registration problem is not related to RegiCon.	Go to step 2.
2	1. Perform the procedure "Resetting Engine NVRAM" on page 6-17 using the original hard drive from the printer, if the hard drive has been replaced. 2. Reprint the Grid 1-Dot test print. 3. Do all the colors align correctly now?	Complete.	Go to step 3.
3	1. Perform the "RegiCon #1 Fine Skew Adjustment" on page 6-7. 2. Do the results indicate the test has passed?	Perform skew correction adjustments as indicated in the second panel data until less that +/- 5 clicks are required for each color. Go to step 4.	Go to step 8.

Step	Actions and Questions	Yes	No
4	1. Perform the "RegiCon #2 In/Out Skew Adjustment" on page 6-8. 2. Do the results indicate the test has passed?	Perform skew correction adjustments as indicated in the panel data until less that +/- 5 clicks are required for each color. Go to step 5.	Go to step 8.
5	1. Perform the "RegiCon #3 Center Skew Adjustment" on page 6-9. 2. Do the results indicate the test has passed?	Go to step 7.	Go to step 6.
6	1. Verify the MOB sensor is correctly positioned in the center and repeat the RegiCon #3 test. 2. Does the test pass now?	Go to step 7.	Diagnose and repair the MOB sensor.
7	1. Print the Grid 1-Dot test print. 2. Do the colors all align correctly?	Complete. Follow the procedure "Store Engine NVRAM" on page 6-21.	Go to step 8.
8	1. Perform the "RegiCon #4 Coarse Skew Adjustment" on page 6-10. 2. Do the results indicate the test has passed?	Perform the skew correction adjustments as indicated in the panel data, ***only until the test passes***, then go back to step 3.	Perform the "Coarse RegiCon Initialization" on page 6-12, then repeat this step.

RegiCon #1 Fine Skew Adjustment

This process uses sensors to examine the RegiCon image on the belt and report what adjustments need to be made. A side effect of this test is that horizontal and vertical alignments are automatically done (if the test passed).

The data output presents the skew screw adjustment values (some number of "clicks" of the screw, either CW or CCW direction). Values less than 5 or so are "noise" and should not need to be adjusted.

1. From the **Hidden Service** menu, highlight the **RegiCon Setup Cycle** menu and press **OK**.
2. The first time any RegiCon test is requested, the pages used to perform the test must be created, so there is a short delay. During this time the front panel displays “Processing Data - Please Wait”
3. Highlight **Do #1 Fine Skew Setup** and press **OK**. The front panel now displays: **Testing - Please Wait.**
4. Wait until the test results are displayed as follows:

```
Fine Skew Setup
Passed
Min A Blocks: 24
Min B Blocks: 4
Yellow 1 Click CW
Magenta 7 Clicks CCW
Cyan 7 Clicks CW
Black 7 Clicks CCW
```

Note

Only 5 lines will be displayed at a time under the Information header. Use the arrow buttons to scroll down or up as required to see the rest of the data.

Note

If the block counts are not the same number as presented here, the printer has a print-quality problem. See "Streaks in Direction of Paper Travel" on page 5-17 to resolve the print-quality problems before proceeding further with RegiCon.

5. If an adjustment is needed, adjust by the amounts displayed on the front panel until all clicks displayed are 5 or less.

Note

If RegiCon #1 Fine Skew test fails, see "RegiCon #4 Coarse Skew Adjustment" on page 6-10.

6. After 2 minutes, the test selection menu will re-appear. To examine the test results after this occurs, highlight the appropriate test and press the **Information** button. The display results are the same as previously except that **Do #1: Fine Skew Setup** appears as the first text below the line.

RegiCon #2 In/Out Skew Adjustment

This test makes "magnification" adjustments for registration. Magnification is the length of the scan line for the four colors, so that each scan line for each color is the same length.

The data output can indicate PASSED, or READJUST (PASSED), or FAILED. If the result is READJUST, the indicated adjustment values for the skew adjustment should be done. It should not be necessary to rerun the test after making this adjustment.

1. From the **Hidden Service** menu, highlight the **RegiCon Setup Cycle** menu and press **OK**.
2. The first time any RegiCon test is requested, the pages used to perform the test must be created, so there is a short delay. During this time the front panel displays “Processing Data - Please Wait”
3. Highlight **Do #2 In/Out Skew Setup** and press **OK**. The front panel now displays: **Testing - Please Wait.**
4. Wait until the test results are displayed as follows:

```
In/Out Skew Setup
Passed
Min A Blocks: 24
Min B Blocks: 0
```

Or

```
In/Out Skew Setup
Passed Readjust
Min A Blocks: 24
Min B Blocks: 0
Yellow 2 Click CW
Magenta 1 Clicks CCW
Cyan 5 Clicks CW
Black 5 Clicks CCW
```

Note

If the block counts are not the same number as presented here, the printer has a print-quality problem. See "Streaks in Direction of Paper Travel" on page 5-17 to resolve the problems before proceeding further with RegiCon.

5. If an adjustment is needed, adjust by the amounts displayed on the front panel.
6. After 2 minutes, the test selection menu will re-appear. To examine the test results after this occurs, highlight the appropriate test and press the **Information** button. The display is the same as previously except that **Do #2: In/Out Skew Setup** appears as the first text below the line.

When RegiCon #1 or RegiCon #2 Fails

The horizontal alignment error is excessive and a manual adjustment is required before the diagnostics test routines for fine skew can pass. Perform the Coarse RegiCon Init procedure, see "Coarse RegiCon Initialization" on page 6-12.

RegiCon #3 Center Skew Adjustment

This test adjusts magnification balance. There are no manual adjustments required after completing the test.

Note

To perform this test, move the mark-on-belt sensor to the CENTER position. After the test has been run, the mark-on-belt sensor must be moved back to the home position.

1. Remove the waste cartridge.
2. Remove the screw that holds the mark-on-belt (MOB) sensor to the front of the printer.
3. Using the laser lens cleaning tool, move the sensor all the way to the CENTER position (until it hits the stop).
4. Reinstall the waste cartridge.
5. Close the door and run the test.
6. From the **Hidden Service** menu, highlight the **RegiCon Setup Cycle** menu and press **OK**.
7. The first time any RegiCon test is requested, the pages used to perform the test must be created, so there is a short delay. During this time the front panel displays “Processing Data - Please Wait”
8. Highlight **Do #3 Center Skew Setup** and press **OK**. The front panel now displays: **Testing - Please Wait.**

9. Wait until the test results are displayed as follows:

```
Center Skew Setup
Passed
Min A Blocks: 24
Max B Blocks: 4
Yellow 0 Click CW
Magenta 0 Clicks CCW
Cyan 0 Clicks CW
Black 0 Clicks CCW
```

Note

If the block counts are not the same number as presented here, the printer has a print-quality problem. See "Streaks in Direction of Paper Travel" on page 5-17 to resolve the print-quality problems before proceeding further with RegiCon.

10. Using the back of the laser cleaning tool, hook the loop of the MOB sensor (just moved in step 3 above) and pull it all the way to the front. Continue holding the MOB Sensor in position while reinserting the securing screw (removed in step 2 above).

When RegiCon #3 Fails

This is probably due to the mark-on-belt sensor not being positioned properly (assuming that RegiCon 1 and 2 tests have already passed). The sensor has a "wedge-fit" when in position for the number 3 "center" position. If the mark-on-belt sensor not correctly positioned, it can cause the test to fail. Recheck the MOB sensor position and run the test again.

RegiCon #4 Coarse Skew Adjustment

1. From the **Hidden Service** menu, highlight the **RegiCon Setup Cycle** menu and press **OK**.
2. The first time any RegiCon test is requested, the pages used to perform the test must be created, so there is a short delay. During this time the front panel displays “Processing Data - Please Wait”
3. Highlight **Do #4 Course Skew Setup** and press **OK**. The front panel now displays: **Testing - Please Wait.**

Note

While the correct spelling for this test should be “Coarse” firmware currently contains the improper spelling “Course”.

4. Wait until the test results are displayed as follows:

```
Course Skew Setup
Passed
Min A Blocks: 0
Min B Blocks: 4
Yellow 40 Click CW
Magenta 47 Clicks CW
Cyan 47 Clicks CW
Black 46 Clicks CW
```

Note

If the block counts are not the same number as presented here, the printer has a print-quality problem. See "Streaks in Direction of Paper Travel" on page 5-17 to resolve the print-quality problems before proceeding further with RegiCon.

If RegiCon Coarse Skew Fails

This indicates that the horizontal alignment is so far out of adjustment that a manual adjustment is required before the diagnostics test routines for fine skew can pass. Other possible problems; a Mark-On-Belt Sensor failure, Developer, Developer Bias Voltage, Imaging Unit, or Engine Control Board Failure.

- Perform the "Coarse RegiCon Initialization" on page 6-12. This adjusts the horizontal alignment closer and allows RegiCon #4 to pass.
- After Coarse RegiCon Initialization is complete, perform RegiCon #4 (Coarse Skew Adjustment) again. Make the required adjustments.

Adjustments should be made only if the skew correction indicated is greater than five clicks.

Adjustment screws are located behind the waste cartridge, which must be removed for access. From left to right, the adjustment screws are: K, C, M, and Y.

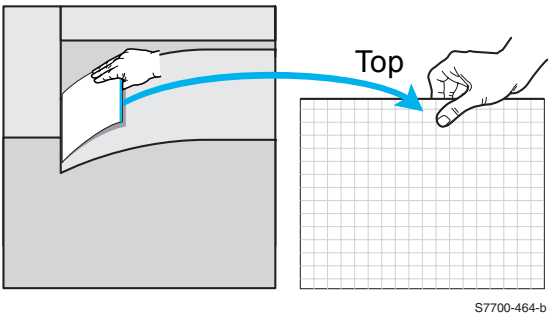
Coarse RegiCon Initialization

1. From the **Hidden Service** menu, highlight **Run Service Diagnostics** and press **OK**. Wait for the printer to initialize in the Service Diagnostics mode.
2. Highlight the **Adjustments/Calibrations** menu and press **OK**.
3. From the select **Adjustments/Calibrations** menu select the **Coarse RegiCon Init** test and press **OK**.
   a. After NVRAM values are read, the test asks **Set Factory Defaults? Yes/No,** then select **Yes**.
   b. This sets the horizontal and vertical alignment to centered values. At this time, it should not be necessary to reset the magnification or magnification balance values, so select **No** to **Set Skew Error Thresholds? Yes/No**.

Note

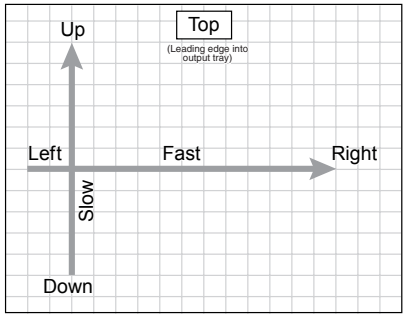
In all the following steps, Cyan is the reference line and cannot be adjusted, so you need to adjust all the other lines towards the Cyan line.

4. From the Built-in Test Prints menu, select **Print Grid 1-Dot**.
   a. This print shows the relative error between the C and MYK scan lines. Always indicate which edge of the print comes out of the printer first to be certain which way is Left/Right or Up/Down (see Figure 4-6 “Grid 1-Dot pattern orientation for A-size paper”). Measure the distance (in millimeters) between the vertical lines, with the Cyan line being the reference line.
   b. It is best if the default paper tray contains A-size paper.



   c. Note the leading edge of the paper when removing the test print from the tray. Use a pen or pencil to note the leading edge as the “**TOP**” of the print “Grid 1-Dot pattern annotations” on page 16. With “**TOP**” up, note the

direction of scan from left to right as the "**FAST** " direction. The direction from the bottom of the print to the top is referred to as the "**SLOW**" direction.



d. Notice which vertical line color(s) on the print needs to be moved right or left to line up as closely as possible with the cyan color line.

e. Measure how much each line needs to move (in millimeters) and whether it must be moved left or right.

Note

Cyan is the reference color and does not move. Make the adjustments of M, Y, and K toward Cyan.

5. From the **Adjustment/Calibrations** menu, select **Coarse RegiCon Init** test.

a. This time answer **No** to the **Set Factory Defaults? Yes/No**,

b. Answer **Yes** to the **Do you want to adjust NVRAM? Yes/No** question.

c. Answer **No** to **Set Skew Error threshold? Yes/No**.

d. Answer **Fast** to the **Which scan direction? Fast/Slow**.

6. Select which color (of YMK) to adjust. Select how many millimeters (1-5) to adjust. Select which direction (**Left/Right**). The next screen asks for confirmation: {**Adjust <color> by <n> mm? Yes/No**}, select **Yes**.

7. Reprint the Grid 1-Dot pattern to verify changes.

8. Print the Grid 1-Dot page to see if the vertical lines are all clustered within 1 mm of the Cyan line. If not, repeat.

9. If the adjustments are no longer having an effect or the lines move in the opposite direction selected, go back to Step 5 and answer **Yes** to **Set Factory Defaults**. Now go through Steps 5 through 8 again. If the results are still not satisfactory, examine the chevron pattern on the belt during Regicon.

ATC Sensor Setup

The automatic toner concentration (ATC) sensor measures the toner to bead ratio in each developer. These sensors have an intrinsic gain and output value that are stored in printer NVRAM. New values must be entered when a new developer housing is installed. Incorrect values have color balance effects.

On the side of each developer housing assembly is a small tag with a bold-faced three-digit number printed near the bottom. The first digit is always "0." The other digits range between 0 and 99.

To set the new values:

1. Enter Service Diagnostics.
2. Highlight **Adjustments/Calibrations** menu and press **OK**.
3. Highlight **ATC Sensor Setup Test** and press **OK**.
4. Note the current values for the tag numbers on the front panel display. They should correspond to the tag numbers of the developers actually installed.
5. Select the color of the developer you installed.
6. Enter the tag number. Use the **Back** and **Info** buttons to select which digit you want to change. Use the **Up** and **Down** buttons to actually modify the digit.
7. Press **OK** to enter the data in engine NVRAM.
8. Press any button to abort the test.

Additional Information

For information on the following topics, see, "Service Diagnostics" on page 4-2.

- TRC Adjust
- ADC Output Check - Check ADC Sensor Fail = 0
- Tone Up/Down - Check ATC Sensor Fail = None
- Laser Power Check
- PWM Mapping - For Engineering Use Only

Storing NVRAM Values on the Hard Drive

The Phaser 7750 printer has a hard drive installed in every printer. The hard drive boots the PostScript firmware. There is a special file on the hard drive that stores the specific calibration values for various sensors and for the laser in the printer.

- During manufacturing, the calibration values from the engine NVRAM have been written to the hard drive. The stored values can be written back to the engine NVRAM by performing a front panel “Restore Engine NVRAM Now” reset procedure.
- If "restore" engine NVRAM does not restore correct color registration, the RegiCon procedure must be performed. After completing the RegiCon process, perform the engine NVRAM "store" function to store the new engine NVRAM values to the hard drive.
- If the hard drive needs to be replaced, there is an engine NVRAM "store" function in the service diagnostics that enables the current engine NVRAM values to be written to the new hard drive.
- If the engine control board is replaced, the NVRAM values on the hard drive need to be written to the new board with the engine NVRAM "restore" function.

Resetting NVRAM

Resetting NVRAM returns all the image processor's NVRAM-stored parameters to their factory defaults except the print counts and the Adobe firmware serial number. You can reset both the PostScript and engine NVRAM using the PostScript Menu or the Service Diagnostics Menu.

PostScript NVRAM Resets

Restore Factory Settings (Color)

You can reset settings for density and color balance to the factory-default values.

1. From the **Main Menu**, highlight **Printer Setup** and press **OK**.
2. Highlight **Calibration Setup** and press **OK**.

   Note

   An alternate access pathway from the Main Menu is **Troubleshooting/Print Quality Problems.**

3. Highlight **Calibrate Colors** and press **OK**.
4. Highlight **Restore Factory Settings** and press **OK**.
5. Highlight **Restore Factory Settings NOW** and press the **OK** to reset the color settings to factory defaults.

Restore Previous Settings (Color)

You can return the color settings to the ones that existed before you saved the last color balance adjustments.

1. From the **Main Menu**, highlight **Printer Setup** and press **OK**.
2. Highlight **Calibration Setup** and press **OK**.

   Note

   An alternate access pathway from the Main Menu is **Troubleshooting/Print Quality Problems.**

3. Highlight **Calibrate Colors** and press **OK**.
4. Highlight **Restore Previous Settings** and press **OK**.
5. Highlight **Restore Previous Settings NOW** and press **OK** to restore the previous color settings.

Restore Factory Settings (Margins)

You can reset margin settings to the factory-default values.

Caution

Use caution when resetting margins to the factory-default settings. Changing these settings back to factory defaults may not be the last-saved settings if you have previously calibrated your margins.

1. From the **Main Menu**, highlight **Printer Setup** and press **OK**.
2. Highlight **Calibration Setup** and press **OK**.

Note

An alternate access pathway from the Main Menu is **Troubleshooting/Print Quality Problems.**

3. Highlight **Calibrate Colors** and press **OK**.
4. Highlight **Calibrate Margins** and press **OK**.
5. Highlight **Restore Factory Settings** and press **OK** to reset the margin settings.

Resetting All Printer Default Settings (NVRAM)

Resetting the NVRAM resets all printer values including network, printer setup, job defaults, color, margin, and paper calibrations.

1. From the **Main Menu**, highlight **Troubleshooting** and press **OK**.
2. Highlight **Service Tools** and press **OK**.
3. Highlight **Reset NVRAM** and press **OK**.
4. Highlight **Reset NVRAM and Reset Printer NOW** and press **OK** to reset all the settings to default.

Resetting Engine NVRAM

Resetting (restoring) the engine NVRAM values resets the RegiCon, color, margin and A4/B5 selection paper settings to default. This is NOT the diagnostics reset.

1. From the **Main Menu**, highlight **Troubleshooting** and press **OK**.
2. Highlight **Service Tools** and press **OK**.
3. Highlight **Reset NVRAM** and press **OK**.
4. Highlight **Reset Engine NVRAM NOW** and press **OK**.

Resetting Paper Handling Defaults

Resetting the paper handling defaults resets the paper source, paper destination, job offset, stapling options, print-quality mode, 2-sided printing, image smoothing and TekColor corrections to their default values.

1. From the **Main Menu**, highlight **Printer Setup** and press **OK**.
2. Highlight **Paper Handling Setup** and press **OK**.
3. Highlight **Reset Paper Handling Setup** and press **OK**.
4. Highlight **Reset Paper Handling Setup NOW** and press **OK** to reset the paper handling defaults.

Resetting Network Setup Values to Default

Resetting the network setup values resets the TCP/IP address, TCP/IP address menu settings (gateway, broadcast, etc.), CentreWare IS, EtherTalk, NetWare, set IPX frame type, IPP and Ethernet speed to their default values.

1. From the **Main Menu**, highlight **Printer Setup** and press **OK**.
2. Highlight **Connection Setup** and press **OK**.
3. Highlight **Reset Connection Setup** and press **OK**.
4. **Reset Connection Setup NOW** is displayed, press **OK**.

Resetting Belt Cleaner Assembly Life

Resetting the belt cleaner life is to be performed only if the belt cleaner assembly is replaced before an end-of-life or near end-of- life message. Do not to extend the life of the assembly. Doing so may cause premature failure of other internal printer components.

The printer prompts the user to reset the life counts if the assembly is replaced after receiving a Replace Belt Cleaner Assembly or Replace Belt Cleaner Assembly Soon message.

1. From the **Main Menu**, highlight **Information** and press **OK**.
2. Highlight **Supplies Info** and press **OK**.
3. Highlight **Reset Belt Cleaner Assembly Life** and press **OK**.
4. Reset **Reset Belt Cleaner Assembly Life NOW** is displayed, press **OK** to reset the Accumulator Belt Cleaner life.

Resetting Transfer Roller Life

Resetting the transfer roller life is to be performed only if the transfer roller assembly is replaced before an end-of-life or near end-of-life message. Do not to extend the life of the assembly. Doing so may cause premature failure of other internal printer components.

The printer prompts the user to reset the life counts if the assembly is replaced after receiving a Replace Transfer Roller or Replace Transfer Roller Soon message.

1. From the **Main Menu**, highlight **Information** and press **OK**.
2. Highlight **Supplies Info** and press **OK**
3. Highlight **Reset Transfer Roller Life** and press **OK**.
4. Reset **Transfer Roller Life NOW** is displayed, press **OK** to reset the Transfer Roller life.

Service Diagnostics NVRAM Resets

PostScript NVRAM Reset

Resetting the printer setup values resets the job defaults, front panel language, Intelligent Ready, Tray 1 (MPT), tray 2- 5 setup, Startup Page, front panel intensity, front panel contrast, PostScript error information and ENERGY STAR timeout to their default values.

1. From the **Main Menu**, highlight **Troubleshooting** and press **OK**.
2. Highlight **Service Tools** and press **OK**.
3. Press the **Up** and **Down** buttons simultaneously to enter the **Hidden Service** menu.
4. Highlight **Run Service Diagnostics** and press OK to enter Service Diagnostics.
5. Highlight **NVRAM Access** and press **OK**.
6. Highlight **PostScript NVRAM Reset** and press **OK**.
7. Select the specific entry desired (**Yes** or **No**) and press **OK**.
8. The printer now exits Service Diagnostics and reboots. While booting, NVRAM is reset.

Clear Tech Rep Faults

The following printer faults can occur during normal operation, and the normal procedure is to isolate and repair the problem. However, with these particular faults, an additional step is required. A value has been written in the engine NVRAM that requires clearing before the printer can be used. Some faults require three occurrences before the fault is generated.

Note

To clear a Tech Rep Fault, you must disconnect the Finisher option. The following functions generate a Tech Rep Fault:

Error	Chain-Link
Belt Home Too Long - Error 30	04-346
ATC-YMCK Sensor Fail - Errors: 12, 13, 14, 15	09-380 thru 09-383
ADC Sensor Fail Errors	09-645
Imaging Unit YMCK Type Mismatch	09-910 thru 09-913
Fuser Main/Sub Lamp Temp Too High - Errors: 35, 44	10-348, 10-350

1. From the **Main Menu**, highlight **Troubleshooting** and press **OK**.
2. Highlight **Service Tools** and press **OK**.
3. Press the Up and Down Arrow buttons simultaneously to enter the **Hidden Service** menu.
4. Highlight **Run Service Diagnostics** and press OK to enter Service Diagnostics.
5. Highlight **NVRAM Access** and press **OK**.
6. Highlight **Clear Tech Rep Faults** and press **OK**.
7. Highlight the **Link Code(s)** to be reset and press **OK**.

Diagnostic Engine NVRAM Reset

Reset NVRAM allows PostScript to write stored data from the hard drive to engine NVRAM. You must restore engine NVRAM after replacing the Engine Control Board.

1. From the **Main Menu**, highlight **Troubleshooting** and press **OK**.
2. Highlight **Service Tools** and press **OK**.
3. Press the Up and Down Arrow buttons simultaneously to enter the **Hidden Service** menu.
4. Highlight **Run Service Diagnostics** and press **OK** to enter Service Diagnostics.
5. Highlight **NVRAM Access** and press **OK**.

6. Highlight **Reset Engine NVRAM** and press **OK**.
7. Select the specific entry desired (**Yes** or **No**) and press **OK**.

Store Engine NVRAM

This function reads values from the engine NVRAM and writes values to the hard drive. It overwrites NVRAM values stored on the hard drive.

You must store values to the hard drive before replacing the engine control board.

- Engine Control Board

You must store engine NVRAM values to the hard drive after replacement of the hard drive.

1. From the **Main Menu**, highlight **Troubleshooting** and press **OK**.
2. Highlight **Service Tools** and press **OK**.
3. Press the Up and Down Arrow buttons simultaneously to enter the **Hidden Service** menu.
4. Highlight **Run Service Diagnostics** and press OK to enter Service Diagnostics.
5. Highlight **NVRAM Access** and press **OK**.
6. Highlight **Store Engine NVRAM** and press **OK**.
7. Select the specific entry desired (**Yes** or **No**) and press **OK**.

Cleaning and Maintenance

In this chapter...

- Service Preventive Maintenance Procedure
- Recommended Tools
- Cleaning

Chapter 7

Service Preventive Maintenance Procedure

Perform the following procedures whenever you check, service, or repair a printer. Cleaning the printer, as outlined in the following steps, assures proper operation of the printer and reduces the probability of having to service the printer in the future.

The frequency of use and the type of paper a customer prints on determines how critical and how often cleaning the machine is necessary. Record the number of sheets printed.

Recommended Tools

- Toner vacuum cleaner Type II
- Clean water
- Clean, dry, lint-free cloth
- Black light protective bag

Cleaning

Caution

Never apply alcohol to any parts in the printer.
Never use a damp cloth to clean up toner.

Caution

If you remove the Imaging Unit, place it in a light protective bag.

1. Record number of sheets printed.
2. Print several sheets of paper to check for problems or defects.
3. Turn OFF the printer.
4. Remove any debris or foreign objects.
5. Vacuum out any loose toner from the interior of the printer with a Type II toner vacuum only.
6. Remove and clean the paper trays.
7. Clean pick rollers with a slightly damp, lint-free cloth.

Service Parts Disassembly

In this chapter...

- Overview
- General Notes on Disassembly
- Disassembly Procedures

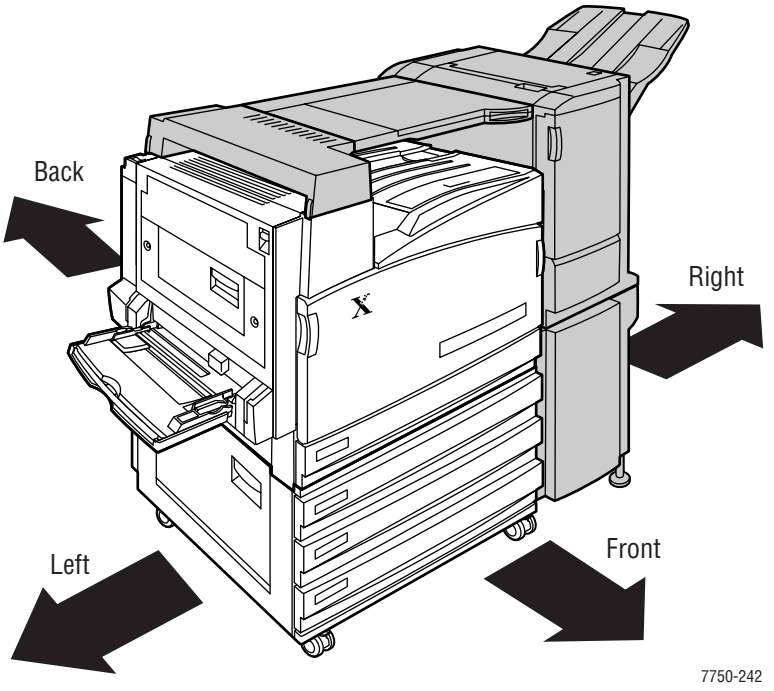
Chapter 8

Overview

This section contains the removal and replacement procedures for selected parts of the printer according to the Service Parts List. Not all replacement procedures are included in this Service Manual. In most cases, to reinstall a part, simply reverse the removal procedure shown. In some instances, the replacement procedure is included because it may contain special steps. For specific assemblies and parts, refer to "Service Parts Lists" on page 9-1.

Standard Orientation of the Printer for Disassembly

When needed the orientation of the printer is called out in the procedure for locating printer parts, refer to the printer orientation graphic for locating the right, left, front and back sides of the printer.



General Notes on Disassembly

Before You Begin Any Disassembly Procedure:

1. Switch OFF the printer power and disconnect the power cord from the wall outlet.
2. Remove the Imaging Units and protect them from exposure to light by covering with a light proof bag or by placing in a light-tight container. Disconnect all computer interface cables from the printer.
3. Wear an electrostatic discharge wrist strap to help prevent damage to the sensitive electronics of the printer circuit boards.

Caution

Many parts are secured by plastic tabs. DO NOT over Flex or force these parts. Do not over torque the screws threaded into plastic parts.
Always use the correct type and size screw. Using the wrong screw can damage tapped holes. Do not use excessive force to either remove or install either a screw or a printer part. When replacing a screw in plastic, rotate it CCW until you feel it fall into the original threads then tighten the screw normally.

Note

Names of parts that appear in the disassembly procedures may not be exactly the same as the names that appear in the Parts List. For example; a part called the Registration Chute Assembly may appear on the Parts List as Assembly, Chute REGI.

Warning

Unplug the AC power cord from the wall outlet before removing any printer part.

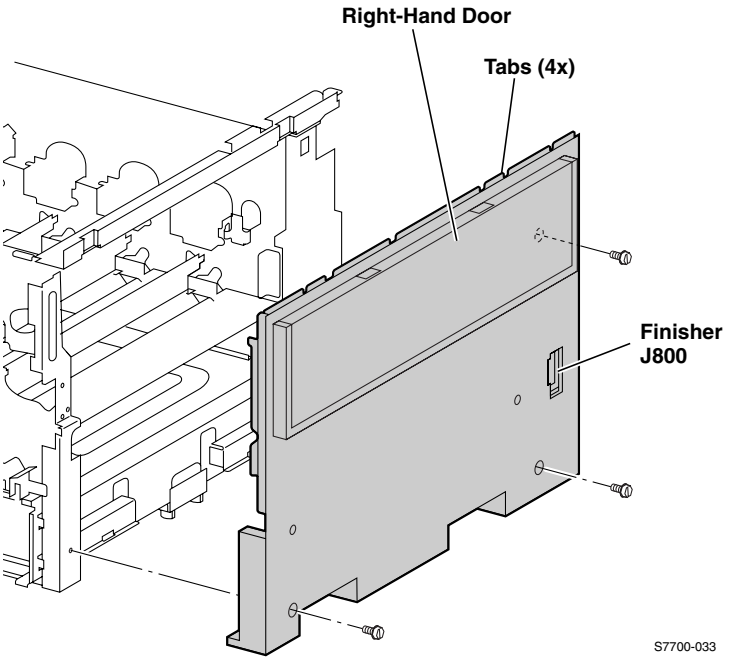
Notations in the Disassembly Text

- The notation “(item X)” points to a numbered callout in the illustration corresponding to the you disassembly procedure being performed.
- The notation “PL*X.X.X*” indicates that this component is listed in the Parts List.
- Bold arrows in an illustration show direction of movement when removing or replacing a component.

Covers

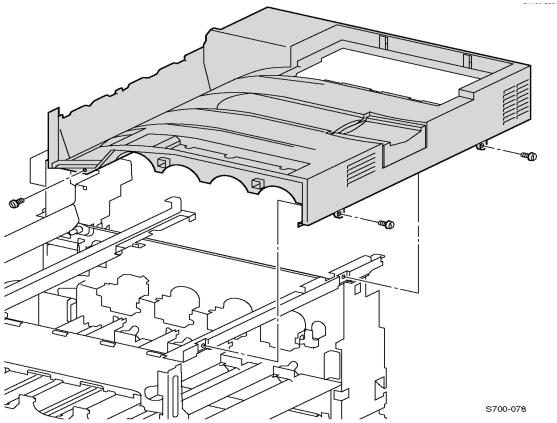
Right Side Cover

1. Open the front cover.
2. Remove 3 screws; 1 screw is located behind the right-hand door.
3. Lightly press downward to release the four hidden tabs behind the right side cover, then pull the cover away from the printer.



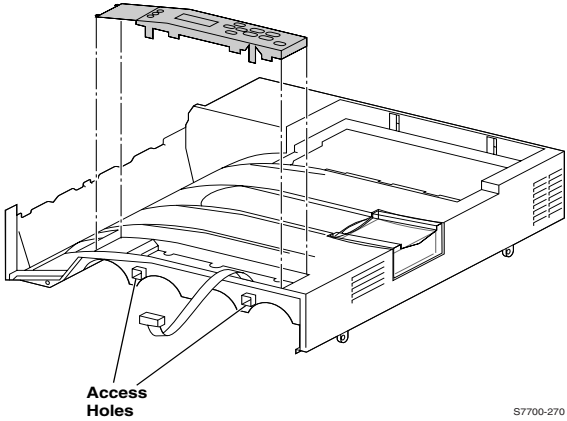
Top Cover and Front Panel

1. Remove the right side cover, see page 8-4.
2. Remove 2 screws visible on the right side of the top cover.
3. Open the front cover and remove 1 front screw holding the top cover.
4. Remove the plastic access cover, then remove the image processor board metal cover and disconnect the front panel cable from the Relay Board P564.
5. Remove the top cover.



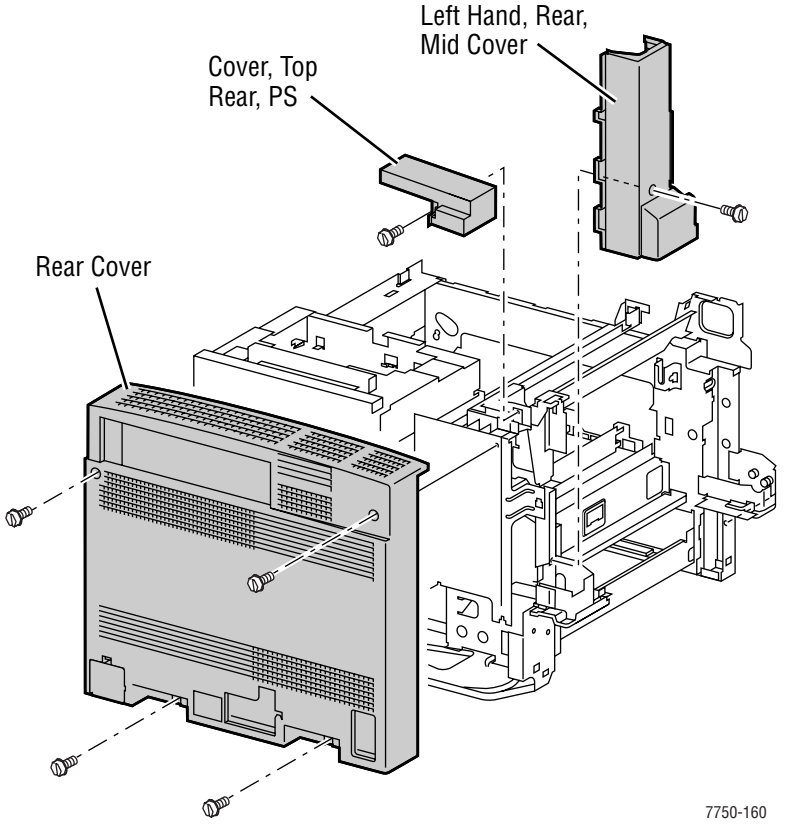
Front Panel Removal

1. Open the front door.
2. Release the front panel assembly by inserting a screwdriver or button into the two access holes indicated in the illustration and push the tabs inward to release.
3. Lift up the panel slightly and unplug the cable connected to the front panel.
4. Release the two tabs on the left-hand end of the front panel assembly and remove.



Rear Cover

1. If an auxiliary feeder has been installed, open the auxiliary feeder connection cover and disconnect the auxiliary feeder wiring harness before removing the rear cover.
2. Remove 4 screws securing the rear cover to the printer.
3. Pull the top edge of the rear cover assembly about one inch away from the printer, and push down to release the cover.



Top Rear Cover

1. Remove the rear cover, see page 8-6.
2. Open the Left-Hand Door A.
3. Loosen 1 screw from the top rear cover.
4. There is a hidden captive tab on the front and side of this cover that resists the upward pull. Place your finger on the front side of the cover to release the tab and pull towards you.

Cover, Left-Hand Rear, Mid

1. Remove the rear cover.
2. Remove 1 screw from the Left-Hand Rear Mid Cover.
3. Open the Left-Hand Door.
4. Lift the cover up to release captive hooks then toward you out of the printer.

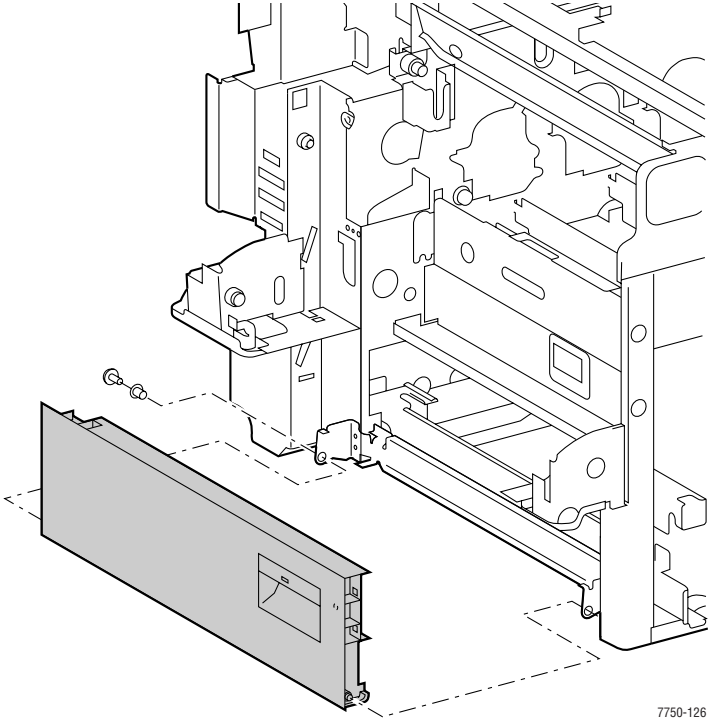
Left-Hand Lower Cover Assembly

1. Open the Left-Hand Lower Cover.
2. Disconnect the wiring harness and free from the clamp near the rear pivot.

Note

Note the positioning of the wiring harness for reinstallation.

3. With a flat tip screwdriver, pry out the pivot pin, then pry out the pivot pin expansion sleeve.
4. Remove the Left-Hand Lower Cover.



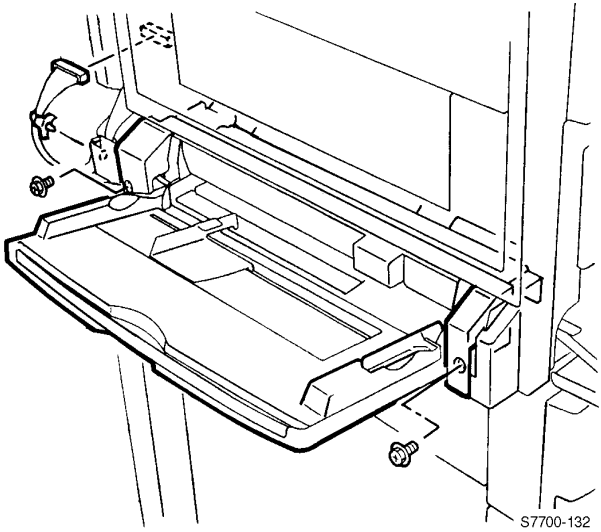
Tray 1 / Multi-Purpose Tray (MPT)

1. Remove the Rear and Mid Covers, see page 8-6.
2. Open the Left-Hand Cover.

Note

Note the routing of the wiring harness. The wiring harness feeds through the access hole at the pivot point and up to the connector. When reassembling, be sure the wire harness is behind the mounting tab.

3. Disconnect the wiring harness and clip from the printer's frame and pull the harness through the access hole.
4. Remove 2 screws securing Tray 1 and then pull the assembly out of the printer. A slight lift on the right-hand side of the assembly may help remove it from the printer.



Reinstallation Procedures:

Note

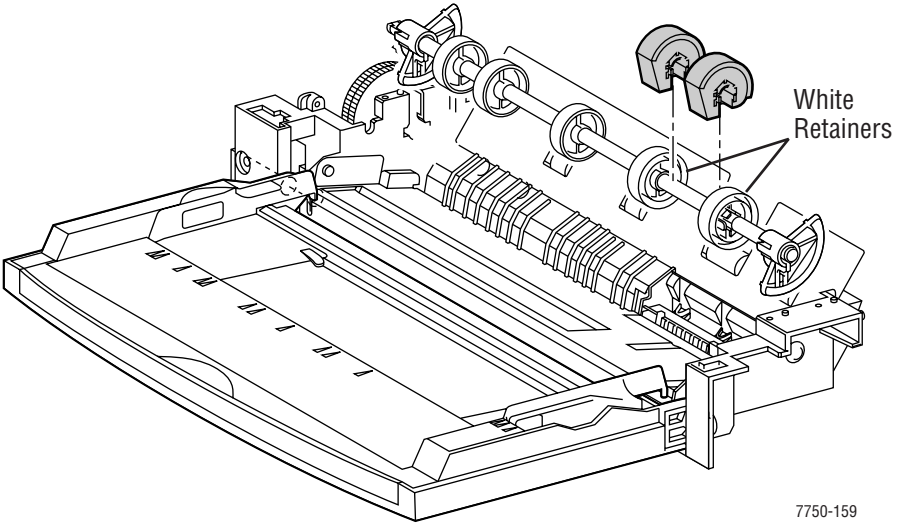
The duplex chute must be in the up position to install Tray 1. Open Door A, position the chute in the proper position, and then close the door.

Caution

When reinstalling Tray 1, make certain you DO NOT pinch the wire between the left bracket and the left screw hole.

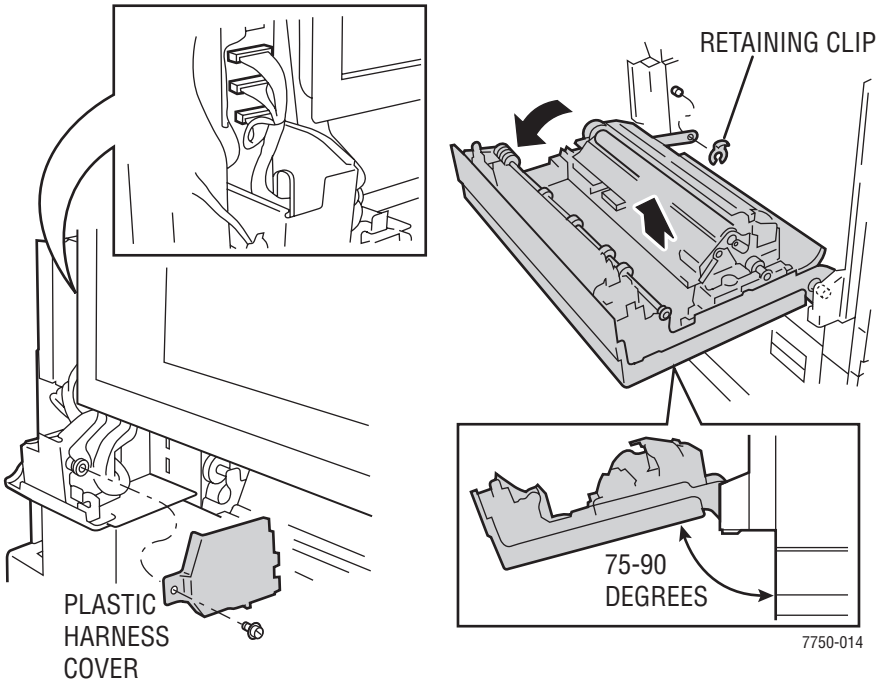
Tray 1 / MPT Paper Pick Rollers

1. Open the Left Hand Door A and locate the pick rollers near the duplex chute.
2. Lift the tab and slide the white retainers away from the pick rollers.
3. Slide the pick rollers off the retaining pins.
4. Lift and remove the pick rollers.



Left Cover Assembly (Left Hand Door A)

1. Remove the rear cover, see page 8-6.
2. Remove the Left Hand Rear Mid Cover, see page 8-7.
3. Remove Tray 1 /(MPT), see page 8-9.
4. Remove the fuser front cover.
5. Open the left cover.
6. Remove 1 screw from the plastic harness cover and remove the cover.
7. Disconnect 3 wiring harnesses.
8. Remove the retaining clip off the link mounting post.
9. While supporting the door, remove the link.
10. Lower the door to approximately 75-90^{o} and lift off the pivot pins to remove.



Note

Reinstall the door on the hinge pins and manually align the marks on the motion damper before completing the installation. Failure to align the gears can result in binding and gear damage.

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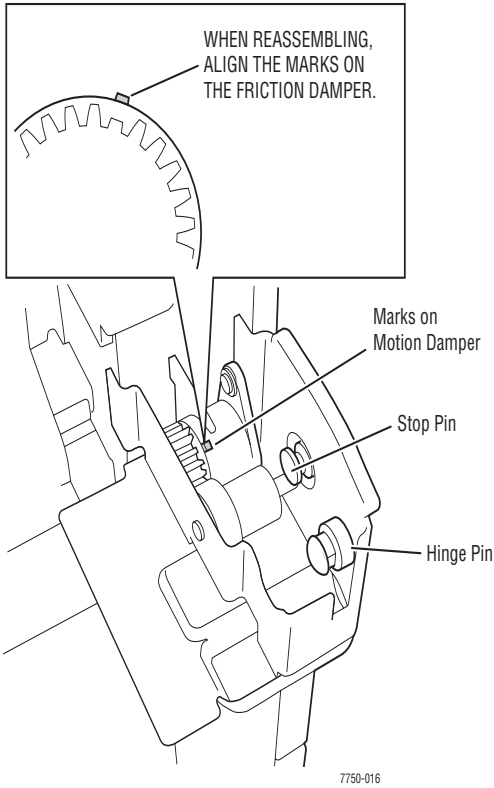
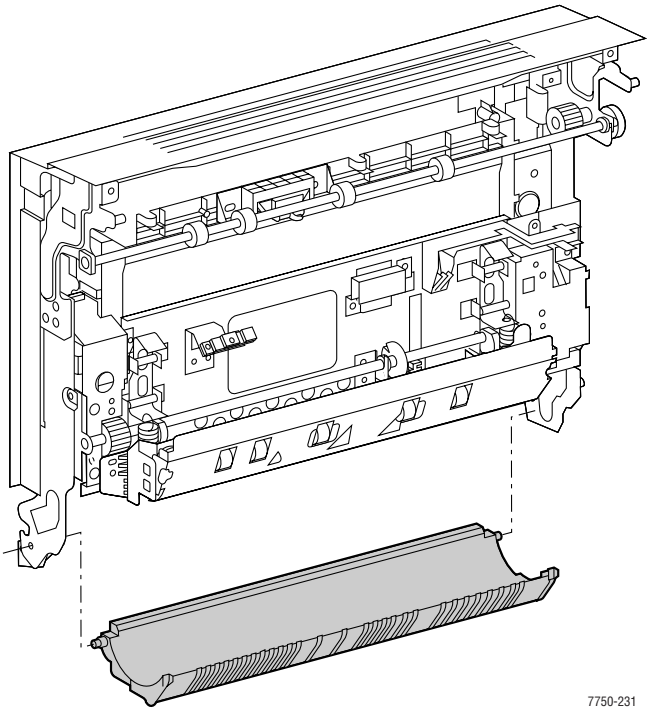


Duplex Chute

1. Remove Tray 1/(MPT), see page 8-9.
2. Open the Left Hand Door A.
3. Rotate the duplex chute downward until the keyed pivot shaft can be removed from the pivot bracket.
4. Remove the duplex chute.

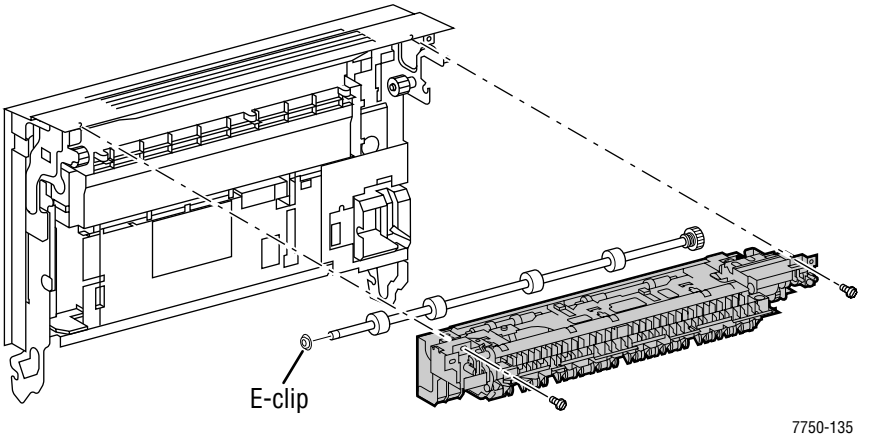
Note

The duplex chute must be in the up position to install Tray 1. Open Door A, position the chute in the proper position, and then close the door.



Inverter Transport Assembly

1. Open the Left-Hand Cover Assembly (Left Door).
2. Remove the e-clip and remove the roller assembly.
3. Remove 2 screws securing the inverter transport assembly to the Left-Hand Door and remove the inverter transport assembly.



Registration Transport Assembly

Note

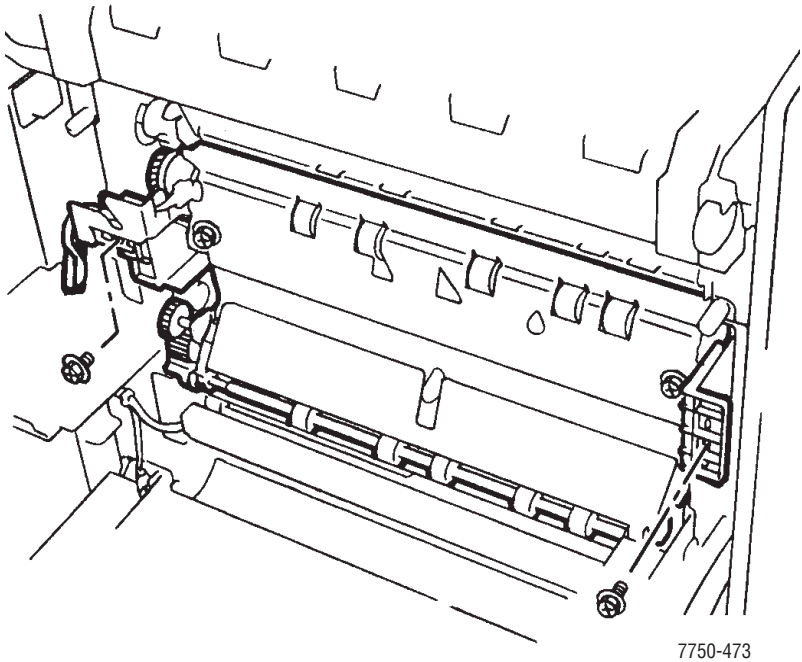
Do not remove the 2 inside screws.

1. Remove Left Hand Door A, see page 8-11.
2. Remove the 2 screws from the plastic flanges that secure the transport assembly in the printer frame.

Note

Note the wiring harness position for reinstalling and make certain the wires are routed behind the black plastic cover on the Registration Transport Assembly.

3. Disconnect the wiring harness.
4. Remove the registration transport assembly.



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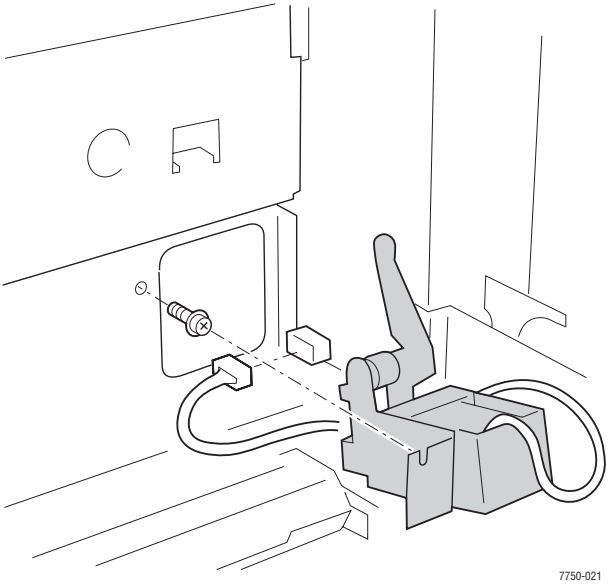
Shutter Solenoid Assembly

1. Remove Tray 1/ (MPT), see page 8-9.
2. Remove the registration transport assembly, see page 8-15.
3. For easier access you can remove the duplex chute, see page 8-13.
4. Disconnect the wiring harness from the front frame connector.

Note

Note the locating pin position, then loosen the one screw that secures the assembly to the frame and remove the shutter motor assembly.



Replacement Procedures

Caution

Verify that the lever is correctly positioned in the slot on reassembly.

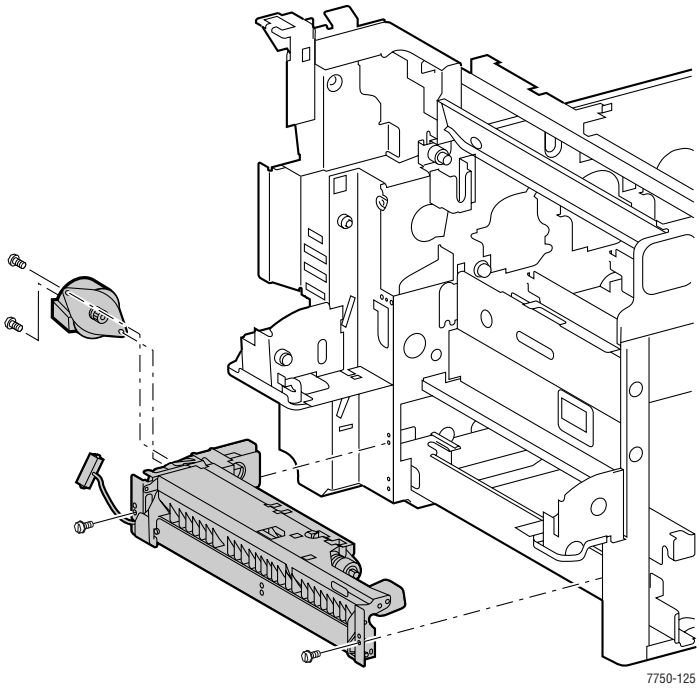
1. Remove the Waste Cartridge.
2. Remove the Black Imaging Unit.
3. While reinstalling the shutter motor assembly, with a flashlight, verify that the solenoid lever engages the notch in the shutter plate.
4. Tighten the mounting screw and reconnect the wiring harness.

Tray 1 Feeder Assembly and Paper Lift Motor

1. Remove the Left-Hand Lower Cover Assembly.
2. Open Tray 1 halfway.
3. Disconnect the wiring harness.
4. Remove the 2 screws holding the Tray 1 feeder assembly, not the screws securing the lower tray bracket.
5. Remove the Tray 1 feeder assembly.
6. Some manipulation may be required to disengage the gears.

Removal of Motor

1. Disconnect the wiring harness from the motor.
2. Remove the two screws securing the motor to the feeder bracket.
3. Lift the motor straight out of the bracket to clear the gear on the motor shaft.



Note

When reinstalling the motor, it may be necessary to manually rotate the gears to mesh them with the other gears.

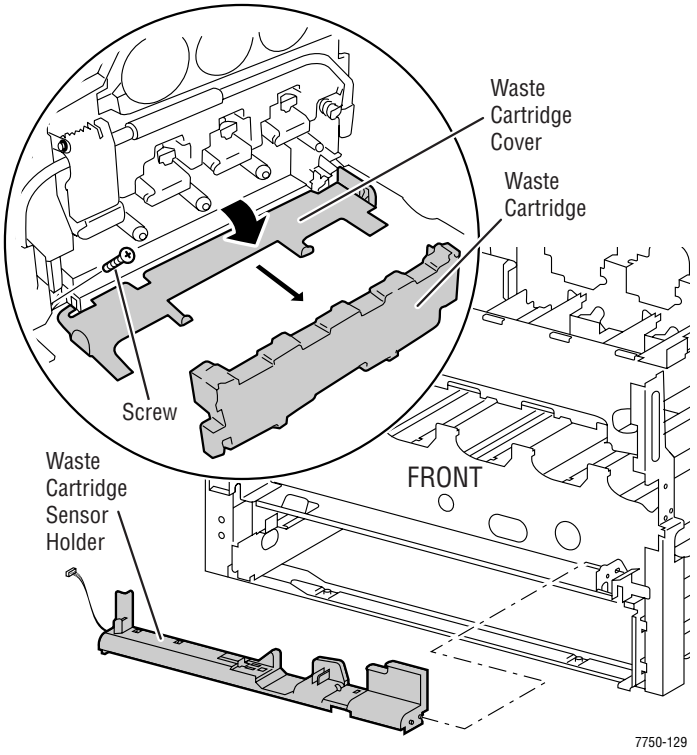
Waste Cartridge Sensor Holder

1. Open the front door.
2. Open the waste cartridge cover.

Note

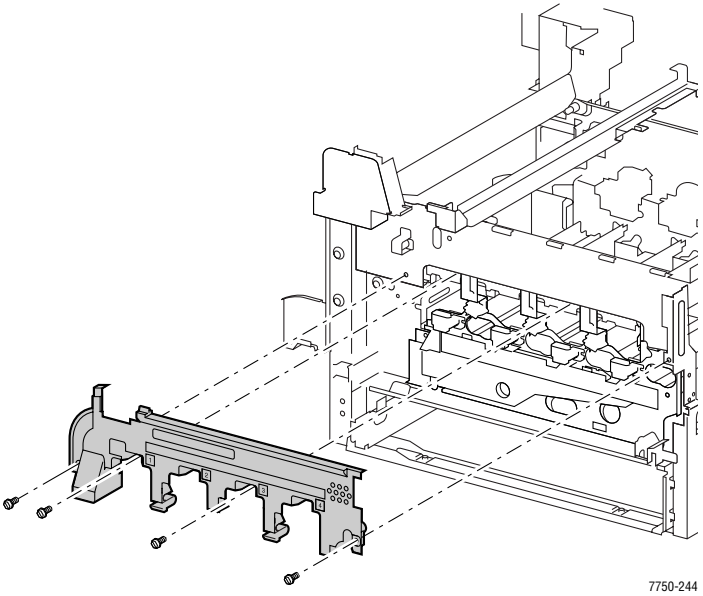
To avoid a toner spill, use care in removing the waste cartridge.

1. Remove the waste cartridge.
2. Remove 1 screw securing the waste cartridge pivot hinge and remove the hinge and cover.
3. Remove the waste cartridge sensor holder, disconnecting wire harnesses, if necessary to replace the sensor.



Imaging Unit Plate Cover

1. Open the front door.
2. Remove fuser front cover.
3. Lower the main lever.
4. Slide imaging units 1 and 3 out slightly.
5. Remove 4 black screws.
6. Remove the plastic imaging unit plate cover.

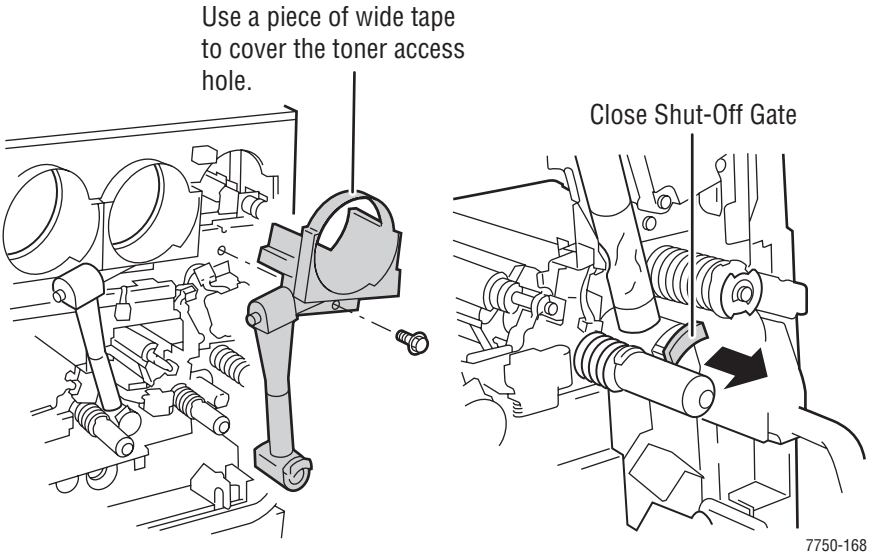


Note

Use only a type II toner vacuum to clean up toner spills. Have a drop cloth available to place the removed assemblies on.

Caution

The dispense assemblies overlap and must be removed in the following order: Y - M - C - K, then reinstalled K - C - M - Y.



1. Open the Front Door.
2. Remove the Imaging Units as necessary.

Note

Cover the exposed opening with a wide piece of tape to avoid spillage. The tape will not stick unless all toner is cleaned off the dispenser first. Do not overlap the tape to the base plate located behind the opening.

3. Remove the imaging unit plate cover.
4. Leave the main lever down.

5. Pull the shut off gate of each toner cartridge toward you approximately 3/4" (or 20mm) to shut off the toner supply for each toner tube (see Figure 8-26, "Dispense Assembly," on page 8-29).

Caution

Be careful when moving the stops, they are easily broken and may come out completely.

6. Remove the screw holding each dispense assembly to the printer.
7. Remove the dispense assembly by pulling both the top and bottom sections evenly away from the printer.

Caution

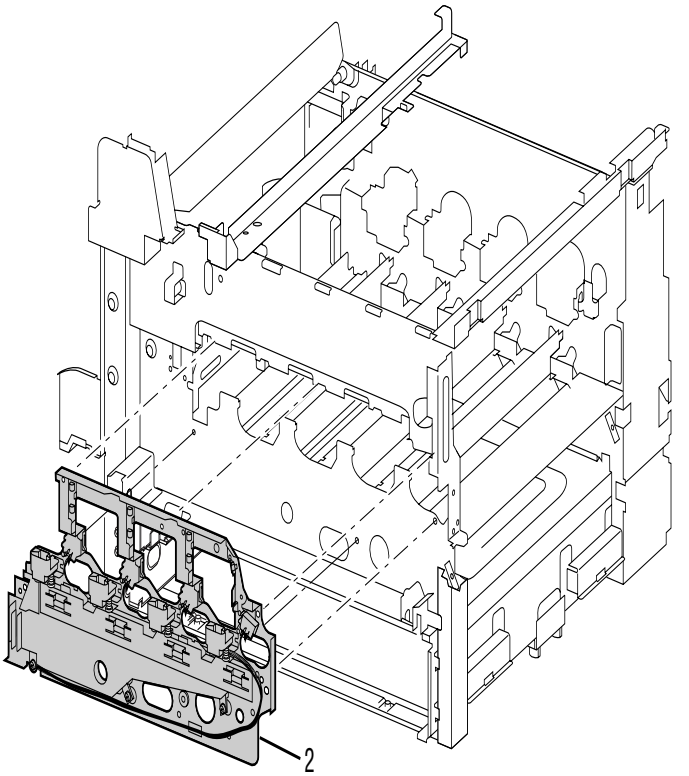
The flexible tubing is not secure and can come apart during removal and replacement causing toner spillage.

Imaging Unit Plate Assembly

Caution

The imaging units are very light sensitive. Store away from light. Do not touch the surface of the imaging units.

1. Remove the imaging units.
2. Leave the main lever down.
3. Remove the waste cartridge sensor holder, see page 8-18.

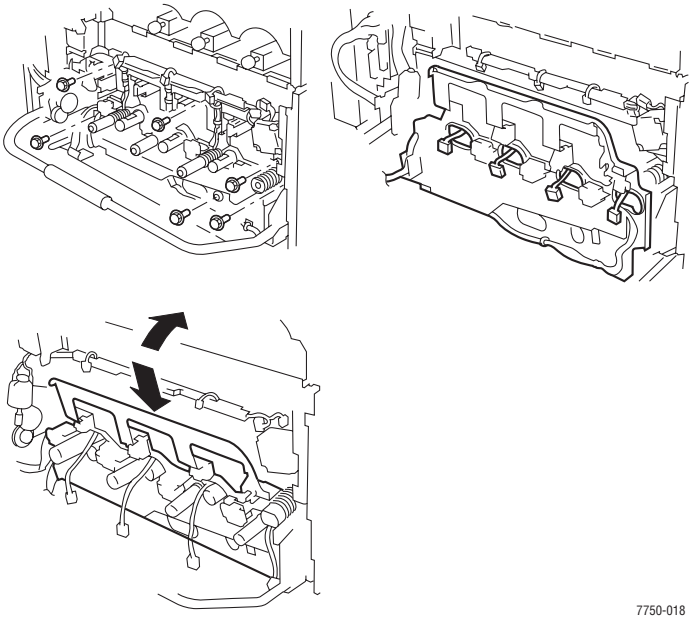


4. Remove the imaging unit plate cover, see page 8-19.
5. Remove the dispense assemblies, see page 8-20.
6. Disconnect the wiring harnesses to all four developer housing assemblies and remove them from under their retaining clips and dress the wires so they stick straight out the front of the printer.
7. Clear the wire harnesses from the guide located on the lower left side of the assembly.

8. Remove the 6 chrome plated screws that secure the plate to the frame.

Note

Complete removal of the imaging unit plate assembly is not required for removal of the Developer(s). Tilt the imaging unit plate assembly forward enough to allow the developer(s) to be removed. Do not disconnect the imaging unit plate harnesses.



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9. Remove 1 screw securing the left-hand inner cover and remove the cover.
10. Disconnect the wiring harness from its retaining clip.
11. Disconnect the harness.
12. Remove the imaging unit plate assembly.

Replacement Procedure

Note

Ensure the developer assemblies are fully and evenly seated when reinstalling the imaging unit plate assembly. There is a locating pin at the back of each developer housing assembly.

Lightly tug the wires to ensure that they are not pinched by the plate or developers while reinstalling.

Center the connectors flat against the wire guide with the yellow developer connector further to the right.

Caution

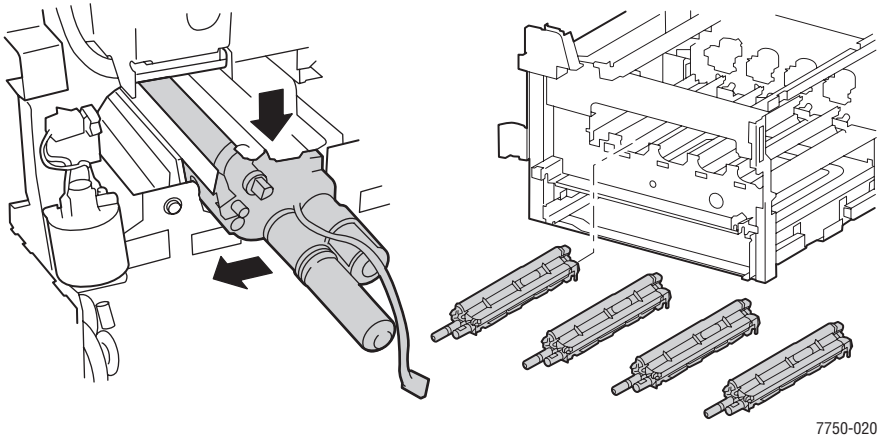
Be very careful not to catch any of the wires on the left-hand side of the plate while re-installing. There are two locating holes in the imaging unit plate assembly that correspond to locating pins on the frame of the printer. Failure to align the holes with the pins prior to tightening screws could result in bending the plate.

Imaging Unit Rail Assembly

1. Remove the waste cartridge.
2. Remove the imaging units and protect them from light.
3. Remove the imaging unit plate cover, see page 8-22.
4. Raise the main lever and loosen but do not remove the screw holding the front rail retaining bracket.
5. Disconnect the erase lamp.
6. Lower the main lever, bias the front rail retaining bracket towards the front of the printer and then remove the rail.
7. When installing the replacement rail, make sure both tabs are in the slots in the front and rear mounting brackets.

Note

Complete removal of the imaging unit plate assembly is not required for removal of the developer(s). Tilt the imaging unit plate assembly forward enough to allow the developer(s) to be removed. Do not disconnect the imaging unit plate harnesses.



1. Partially remove the imaging unit plate assembly.
2. A locating pin is at the back of each developer housing assembly that matches a hole in the frame when positioned and seated correctly. A slight rotating back and forth of the assembly will help find the locating pin hole in the printer frame.

Recharging a Developer Housing Assembly

Caution

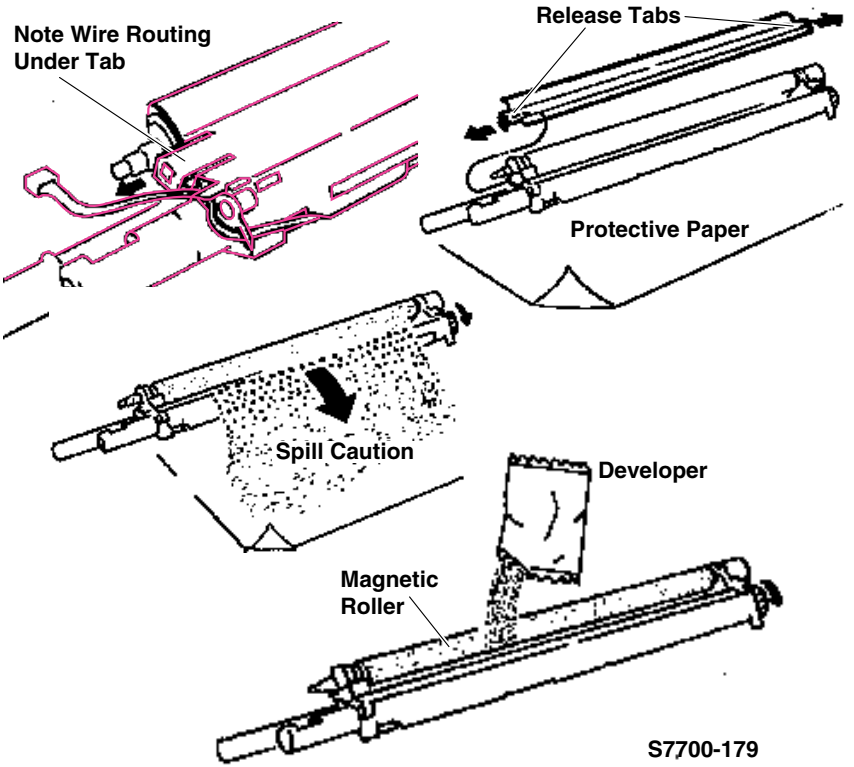
If replacing a developer housing assembly, write down the new ATC tag number. Remove the tear-off ATC tag number label, and adhere it near the appropriate Imaging Unit connector on the Imaging Unit plate assembly, then perform the procedure. See "ATC Sensor Setup" on page 6-14.

Note

It is easy to spill toner in this procedure. Use only a type II toner vacuum to clean up any spilled toner.

Check the temperature sensitive label on the developer beads. If the label has turned dark, the beads have been exposed to a higher than expected temperature and should not be used.

If the developer beads are being replaced for toner clumping, also replace the toner cartridge of the effected color. The dispense assembly of the effected color should also be purged of all toner before the new toner cartridge is installed.



1. Place the developer housing assembly (new or used) to be recharged on a drop cloth.

Caution

During this procedure, the developer housing assembly must be kept level at all times. To prevent toner spillage, it is recommended that the developer housing assembly be fully supported level by laying it on something like a large piece of cloth, paper towels or styrofoam hollowed out for the developer housing assembly to lie on. If new, remove the protective cover over the magnetic roller. Do not touch the magnetic roller.

Note

The wires are routed under and behind the right snap tab.

2. Release the snap tabs at each end of the developer housing assembly and remove the assembly cover.
3. Agitate the package of developer mix and then cut it open. Carefully pour the entire contents of developer mix as evenly as possible over the two augers. Do not let the developer mix accumulate heavily on the roller. Keep the developer housing assembly level.
4. Reinstall the cover making sure that the rear tabs are all engaged in their respective slots while positioning the wire harness under the snap tab. Press firmly until you hear a positive “snap” sound for each tab indicating each snap tab is securely fastened.
5. Tear off the ATC sensor perforated tag. Do NOT remove the ATC sensor label from the developer housing.Peel off the protective backing, and adhere the label to the appropriate or corresponding Imaging Unit Plate. Make sure the ATC sensor tag label can be located if needed later.
6. Record the number for entering into NVRAM in the next step.
7. Perform the ATC Sensor Setup procedure, see page 6-14.

Caution

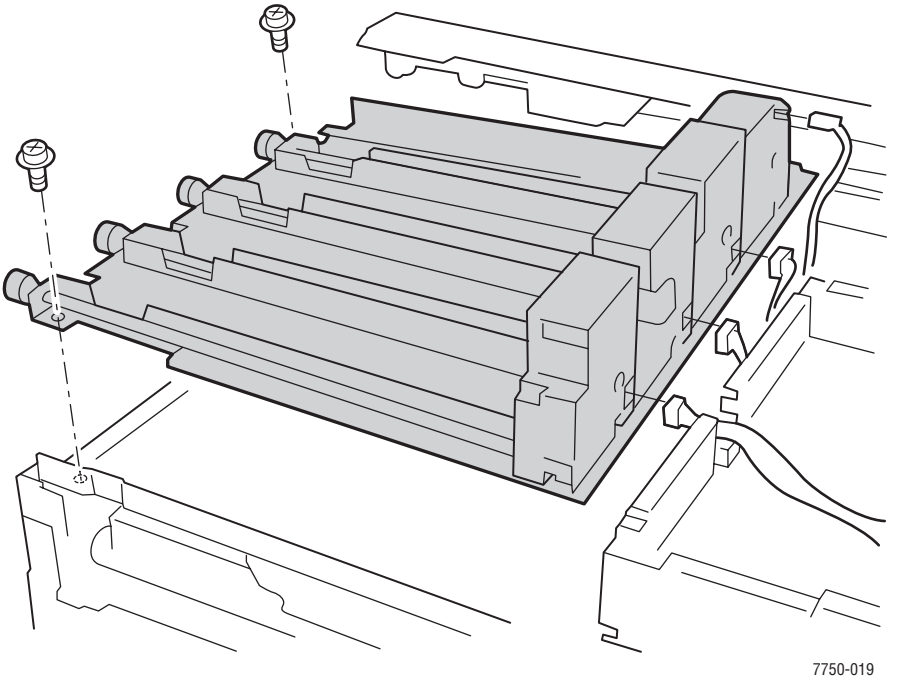
It is important to re-enter the ATC value when replacing a developer. Failing to do so could result in poor color balance and shortened developer life.

Note

The ATC sensor tag is difficult to view once the developer has been installed. Remove the label prior to installation.

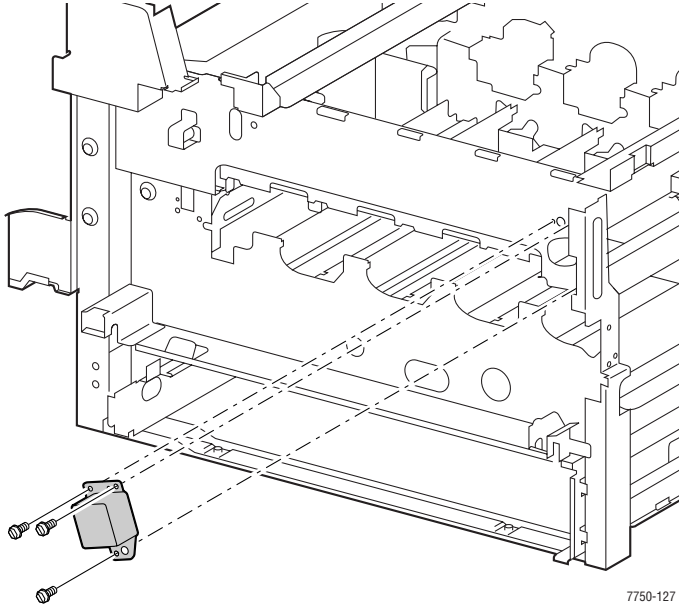
Toner Dispense Motor Assembly

1. Remove the right cover, see page 8-4.
2. Remove the top cover assembly, see page 8-5.
3. Remove the dispense housing assemblies, see page 8-20.
4. Remove the 2 screws that secure the toner dispense motor assembly to the printer frame.
5. Disconnect the wiring harness from each motor.
6. Remove the toner dispense motor assembly.



Steering Drive Assembly

1. Remove the Imaging Units and Imaging Unit Plate Cover, see page 8-22.
2. Disconnect the wiring harness.
3. Remove the 3 screws securing the Steering Drive Assembly and remove the assembly from the printer.



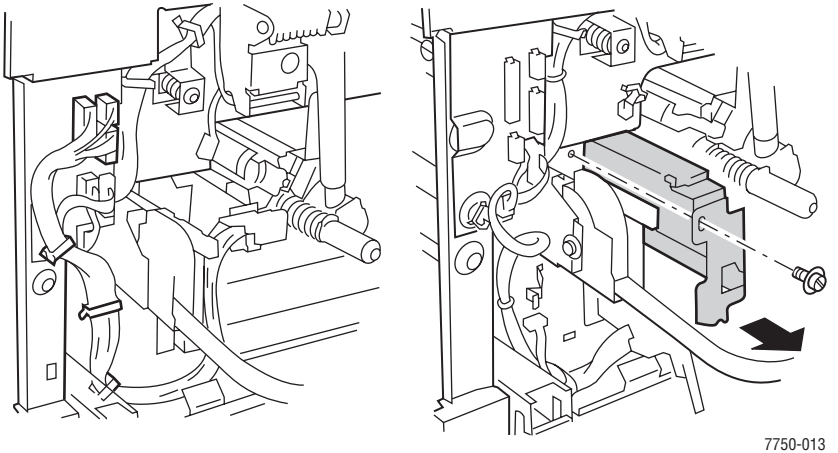
Replacement Procedures

Note

You may have to rotate the CAM gear to reinstall the steering drive assembly.

Mark-On-Belt (MOB) Sensor

1. Remove the waste cartridge assembly.
2. Remove the imaging unit plate cover, see page 8-19.
3. Remove the waste toner agitator motor.
4. Remove the left-hand inner cover.
5. Remove the waste cartridge sensor holder, see page 8-18.
6. Disconnect the purple harnesses.
7. Remove the wiring harness from three clips.
8. Remove 1 black screw to remove the mark-on-belt assembly.



Replacement Procedures

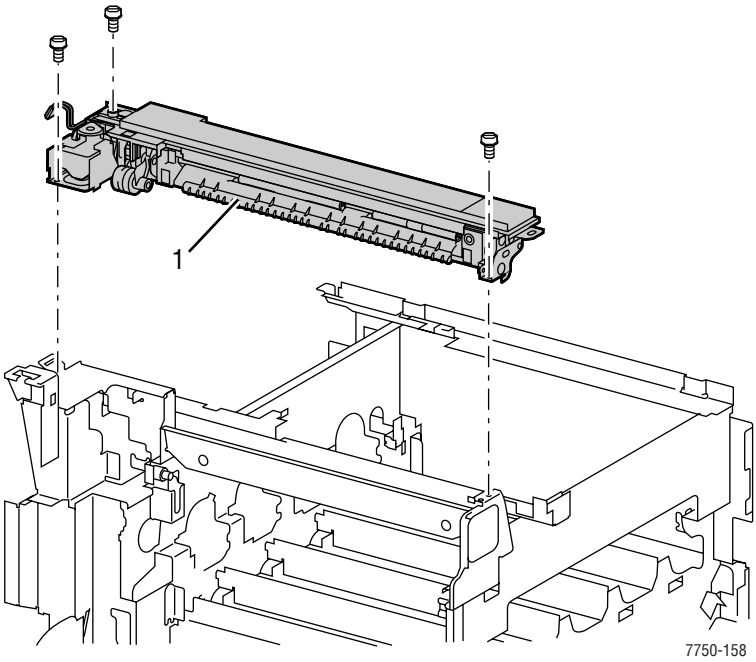
Note

If the mark-on-belt adjustment procedure (RegiCon) is being performed, then proceed to the following steps.

1. Using the laser window cleaning wand, move the MOB sensor back into the original position. Store the cleaning wand back in the front cover.

Exit Transport Assembly

1. Remove the rear cover, see page 8-6.
2. Remove the left-hand top cover, see page 8-8.
3. Remove the fuser front cover.
4. Open left-hand cover.
5. Remove the 1 screw securing the transport assembly cover and remove the cover.
6. Disconnect the harnesses to the transport assembly and the left-hand cover interlock connector.
7. Remove the 3 remaining screws securing the transport assembly and remove the assembly.



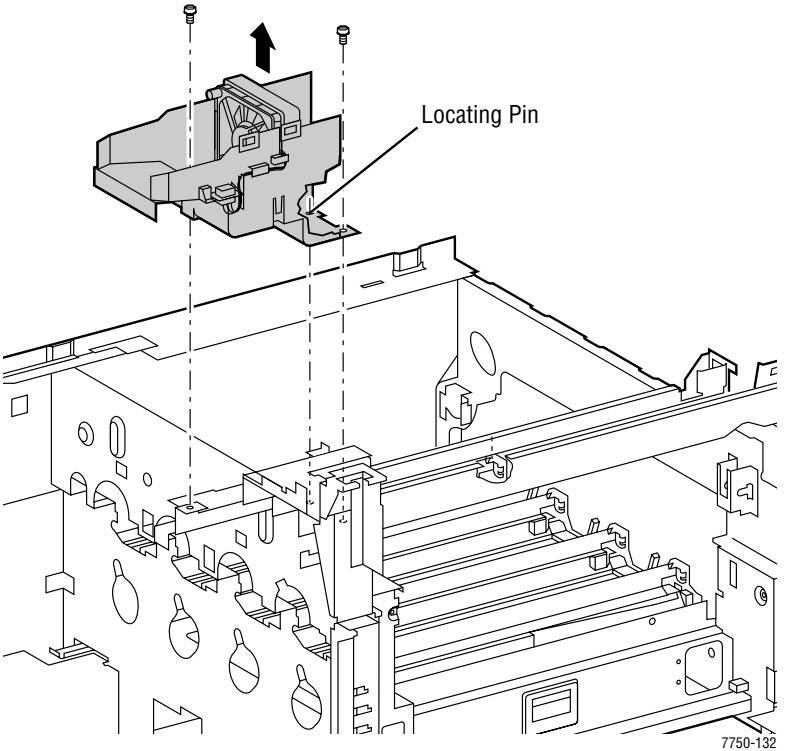
Fuser Fan Assembly

1. Remove the rear cover, see page 8-6.
2. Remove the top cover, see page 8-5.
3. Remove the right side cover.
4. Note the routing of the wiring harness.

Note

It is easier to re-install the wire harness if the fuser fan and plastic mounting bracket are removed from the printer.

5. Remove the 2 screws securing the fuser fan assembly and remove the assembly.
6. Disconnect the wiring harness.

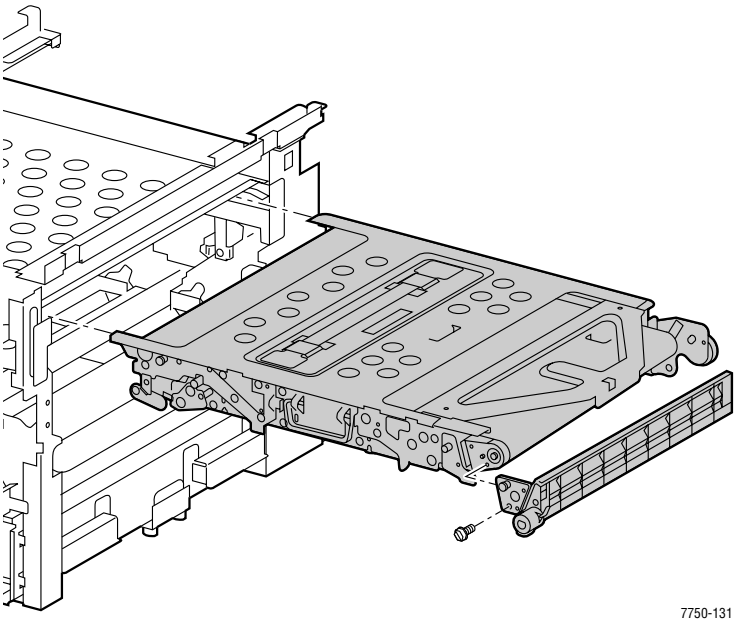


Accumulator Belt Mounting Frame

1. Remove the accumulator belt assembly.
2. Remove the imaging units and protect from light.
3. Remove the imaging unit plate cover.
4. Remove the steering drive assembly.
5. Remove the fuser.
6. Remove the registration assembly.
7. Remove the mounting screws from the main drive assembly and push it 1/4 inch to the rear of the printer.
8. Remove 4 black screws that mount the accumulator belt frame to the left hand lift jack.
9. Remove the e-clips and washers from the right hand lift jack roller guides.
10. Remove the 4 black screws holding the right hand lift bracket to the Accumulator Belt Frame and remove the bracket.
11. Remove the 1 screw holding the accumulator belt connector to the rear frame and move the harness out to the way.
12. Remove the 2 screws holding the first bias transfer contacts to the rear frame and move them out of the way.
13. Remove the guide studs on the front and rear of the printer.
14. Unhook the erase lamps mounted on each guide rail and remove the guide rails.
15. Raise the front handle.
16. Lift the accumulator belt frame assembly as high as it goes and remove it from the right side of the printer.

Belt Cleaner

1. Open the right-hand door.
2. Open the front cover and lower the main lever.
3. Lift the accumulator belt locking lever and pull the assembly out a few inches.
4. Using a 2.5 mm hex driver remove the 2 screws on the left side of the belt cleaner assembly.
5. Remove the belt cleaner assembly being careful not to spill toner.



Replacement Procedures

Caution

Never run the printer without the belt cleaner installed or severe damage to the Accumulator Belt can occur.

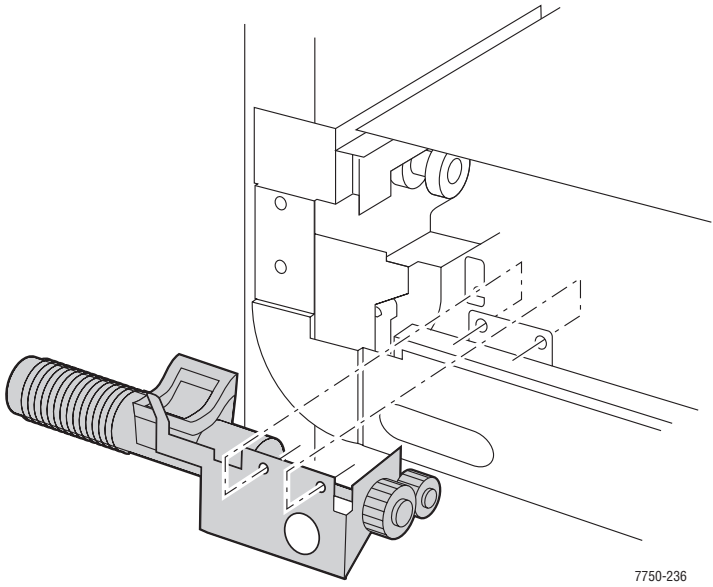
Ensure that the accumulator belt is fully inserted or severe printer damage can result. NEVER FORCE THE MAIN LEVER!

Waste Auger Assembly

1. Remove the right side cover, see page 8-4.
2. Remove the waste cartridge and lower the main lever.
3. Remove accumulator belt assembly, see page 8-34.
4. Return the main lever to its upright position.
5. Remove 2 screws securing the Waste Auger Assembly.
6. Shift the waste auger assembly to remove the drive shaft from the bearing and remove the waste auger assembly.

Note

Be careful not to knock the bearing out of its seat or to spill the waste toner during removal.



Replacement Procedures

Note

When reinstalling, be sure to return the main lever is down before reinstalling the accumulator belt assembly.

Laser Unit (ROS)

1. Remove the rear cover, see page 8-6.
2. Remove the right side cover, see page 8-4.
3. Disconnect the wiring harnesses at engine board P400 and 401.
4. Undo the retainers and undo the wiring harness.

Note

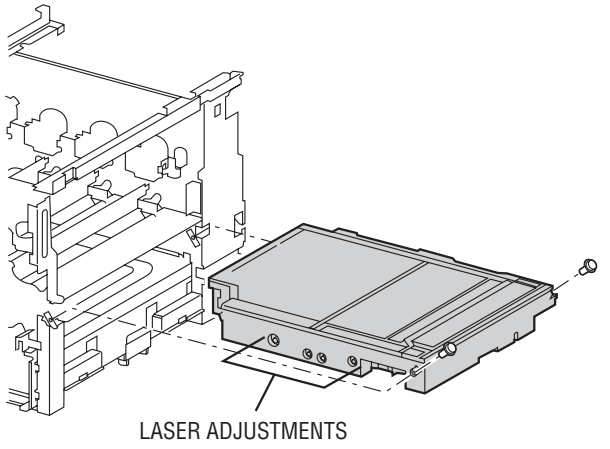
Observe the routing of the laser unit wiring harness up to the engine control board, the information will be needed during reassembly.

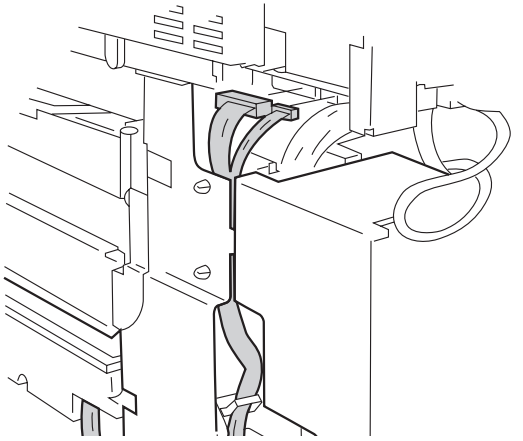
5. Remove the 2 screws securing the laser unit in the printer.

Caution

The laser unit is heavy.

6. Pull the laser unit out of the printer.





Note

You must perform the RegiCon adjustment procedures after replacing the Laser Unit, see "RegiCon Adjustment Procedures" on page 6-5.

Note

Store the NVRAM values to the hard drive after calibration. See "Store Engine NVRAM" on page 6-21.

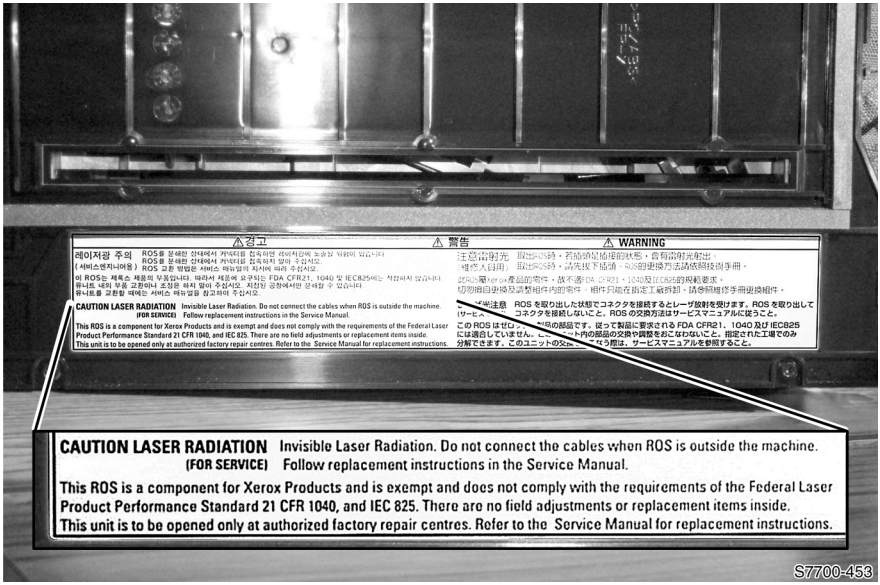

⚠ 경고
⚠ 警告
⚠ WARNING
CAUTION LASER RADIATION (FOR SERVICE)
Invisible Laser Radiation. Do not connect the cables when ROS is outside the machine.
Follow replacement instructions in the Service Manual.
This ROS is a component for Xerox Products and is exempt and does not comply with the requirements of the Federal Laser Product Performance Standard 21 CFR 1040, and IEC 825. There are no field adjustments or replacement items inside.
This unit is to be opened only at authorized factory repair centres. Refer to the Service Manual for replacement instructions.
S7700-453

Image Processor Board

1. Turn the power OFF and unplug the printer.

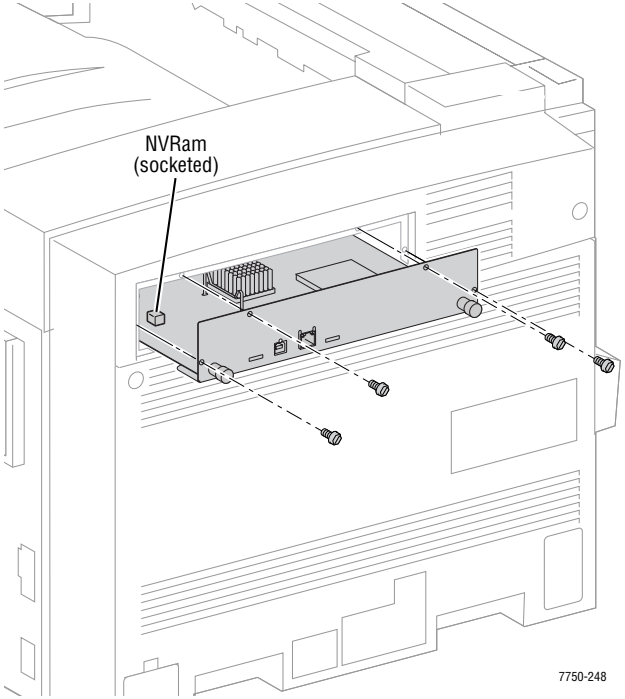
Caution

The image processor board is susceptible to ESD damage. Observe proper ESD precautions.

2. Disconnect all communication cables.
3. Remove 4 screws securing the image processor board and remove the board.
4. The following should be transferred to a the new board if the image processor board is being replaced.
   - Internal Hard Drive.
   - NVRAM chip to preserve the customer's network and setup values.
   - Memory
   - Configuration Chip

Note

Make sure the image processor board is fully seated when reinstalling.



Internal Hard Drive

Caution

The internal hard drive is susceptible to ESD damage. Observe proper ESD precautions.

1. Remove the image processor board.
2. Using a T-10 torx bit, remove 4 screws from the bottom side of the image processor board holding the Internal Hard Drive.
3. Slide the internal hard drive away from the connector.

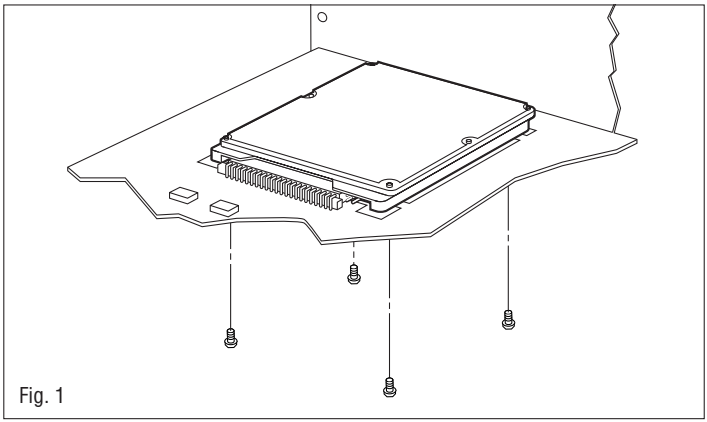


Fig. 1

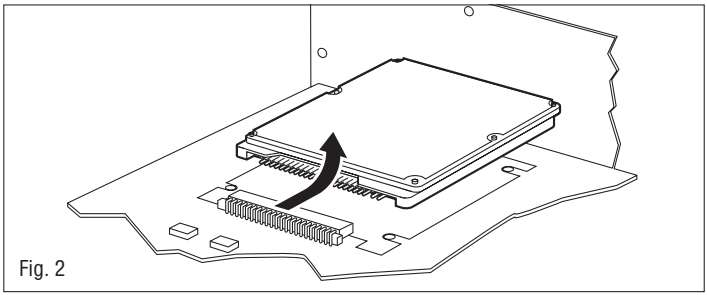


Fig. 2

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Replacement Procedures

Caution

It is possible to mis-align the pins when seating the new internal hard drive.

Note

If you replace the internal hard drive, you must enter Service Diagnostics Mode and run the “Store NVRAM” test.

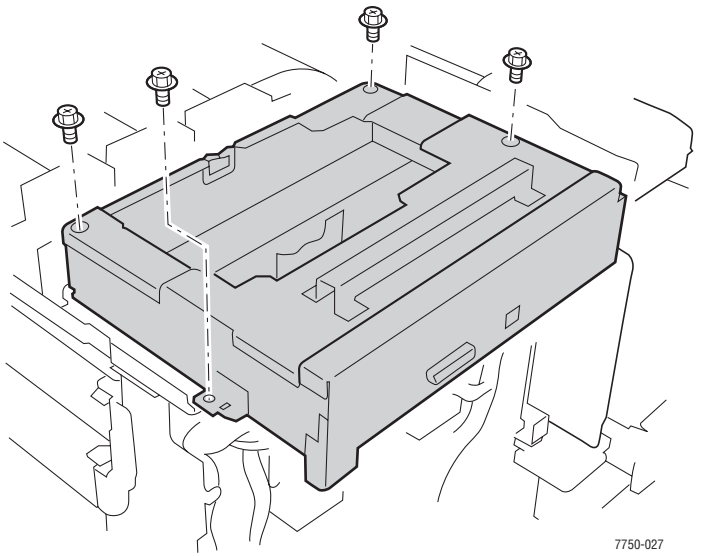
Note

Before removing the electrical chassis assembly, it is recommended you store the Engine NVRAM data to the hard drive. See "Store Engine NVRAM" on page 6-21.

1. Remove the right cover, see page 8-4.
2. Remove the top cover, see page 8-5.
3. Remove the rear cover, see page 8-6.
4. Remove all 3 shields on the rear of the printer.
5. Remove the image processor board, see page 8-38.
6. Disconnect the 9 wiring harnesses along the edges of the engine controller board. 7 of these harnesses are in front of the controller board. The other 2 are on the left side.
7. Two of the engine control connectors have connector locks. There is 1 harness clip to release.
8. Undo the harness retainer. Disconnect the wiring harness to the relay board connector P300 and the front panel cable to P564.
9. Remove the 2 mounting screws towards the rear of the printer, but only loosen the two mounting screws towards the printer front.

Note

The 2 screws toward the printer front serve as a guide for reinstallation.



10. Lift and tilt the cage assembly to release it from the engine control interface board connector below the cage assembly and remove the assembly.

Replacement Procedures

Note

Before re-installing the assembly, widen the gap in each of the two white nylon retainers to ensure that they successfully engage the interface board bracket. Mis-alignment prevents a good connection to the interface board.

1. Tilt and insert the electrical chassis under the two loosened screws.
2. Carefully lower the assembly onto the engine control interface board connector.
3. Push lightly in the center of the assembly to ensure the assembly is fully seated. If board is reasonably stable, the board is properly placed.
4. Continue installation by reversing the removal procedures.

Caution

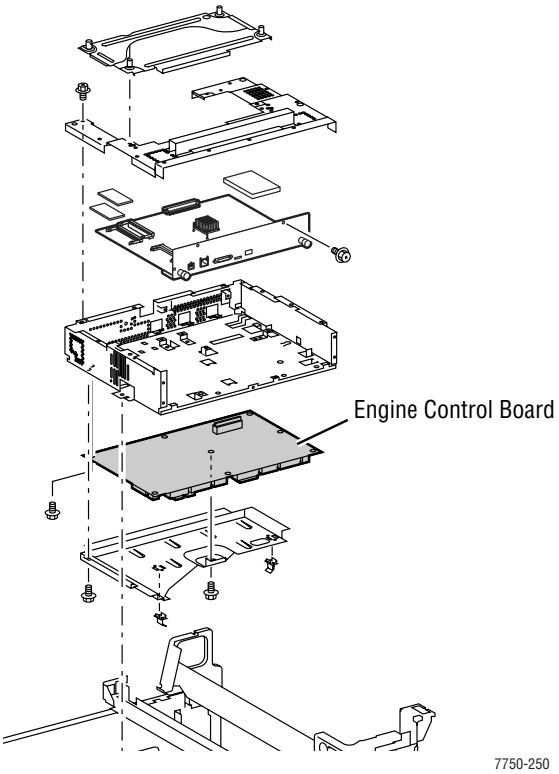
Ensure that all connections are firmly seated, pay special attention to the laser unit connections on the printers right side and to the Interface Board.

Note

After replacement of the engine control interface board, perform the "Diagnostic Engine NVRAM Reset" on page 6-20.

Engine Control Board

1. Store the engine board NVRAM values to the hard drive. See "Store Engine NVRAM" on page 6-21.
2. Remove the electrical (card cage) assembly, see page 8-40.
3. Disconnect the orange ribbon cable at the engine board.
4. Remove the 8 screws securing the engine control board metal shield and remove the shield.
5. Remove the remaining 6 screws and remove the engine control board.



Replacement Procedures

Caution

When reinstalling the engine control board, be sure to fully seat connector P460.

1. Write the stored NVRAM values to the engine board using the Service Diagnostics procedure "Diagnostic Engine NVRAM Reset" on page 6-20.

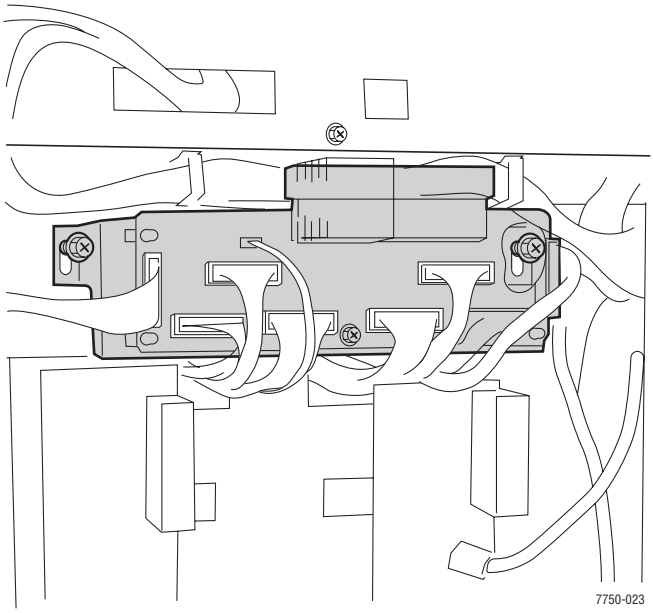
Engine Control Interface Board

Caution

Two connectors have locks to release before pulling on the harnesses.

Method #1

1. After removing the engine control board, see page 8-42.
2. Disconnect the 8 wiring harnesses.
3. Loosen the 2 mounting bracket screws and remove the interface board from the white plastic mounting posts.



Method #2

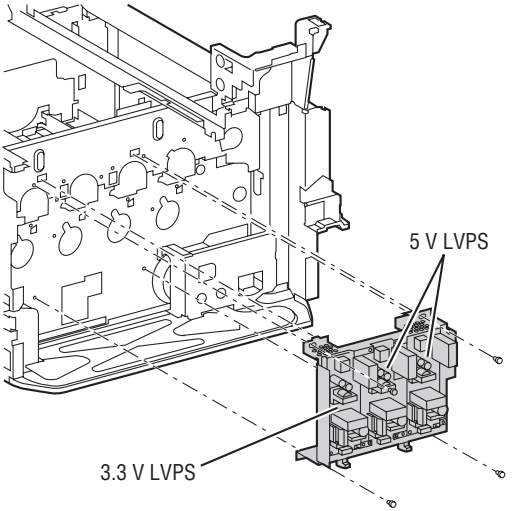
1. Lower the HVPS assembly to a horizontal position.
2. Disconnect the 8 wiring harnesses.
3. Remove the 2 screws that secure the engine control interface board mounting bracket to the printer frame.
4. Remove the engine control interface board and mounting bracket from the printer frame.

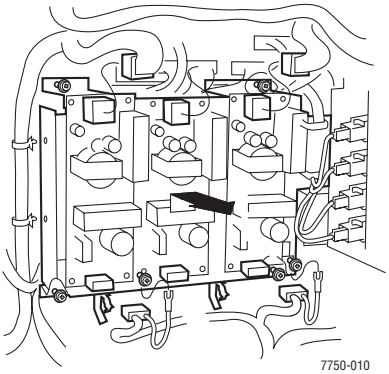
3.3 VDC and 5 VDC Low-Voltage Power Supplies

Note

If removing only one of the low-voltage power supplies, disconnect the associated wiring harness from the printer, and remove the 4 screws that secure the low-voltage power supply to the mounting bracket.

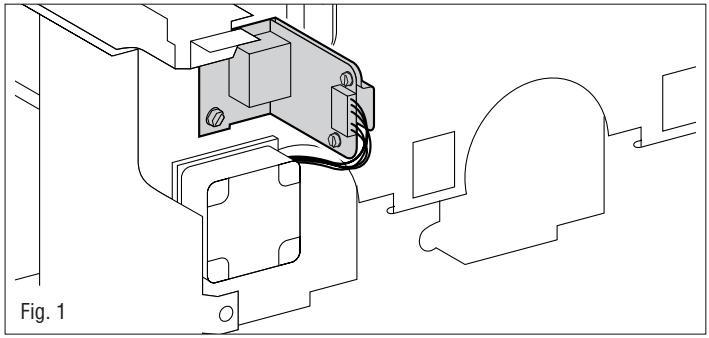
1. Move the T1 and T3 power supplies out of the way.
2. Disconnect P/Js 510, 511, 15 and 16 from the low-voltage power supplies.
3. Loosen the 4 screws securing the mounting bracket to the frame.
4. Lift power supply up and out to remove.

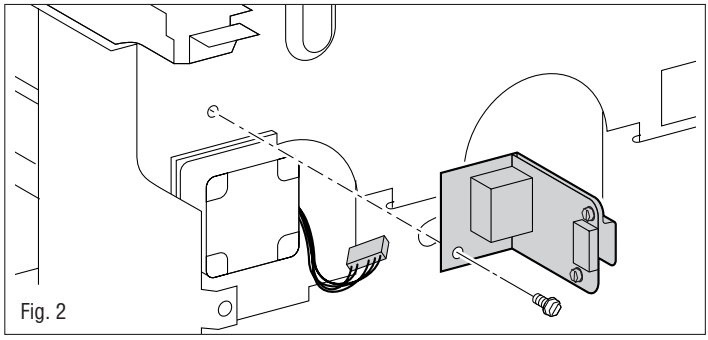




LD Power Relay

1. Remove the rear cover and shield.
2. Disconnect the wiring harness.
3. Remove 2 screws securing the LD power assembly.
4. Remove the LD power assembly.





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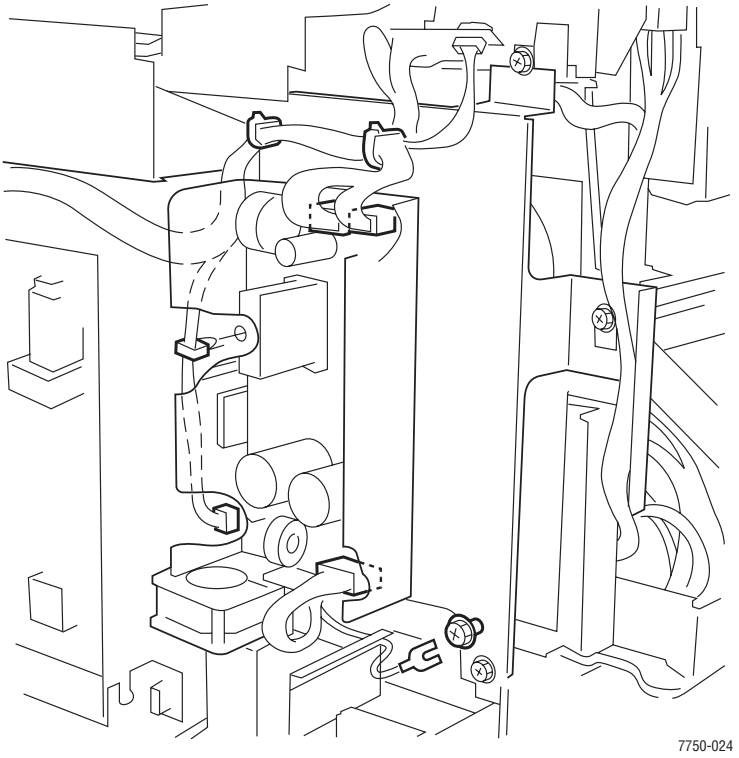
24 VDC Low-Voltage Power Supply, Fan and Bracket

1. Remove the rear cover and 24 VDC shield.
2. Remove the top rear cover and left-hand rear mid covers, see page 8-7.

Note

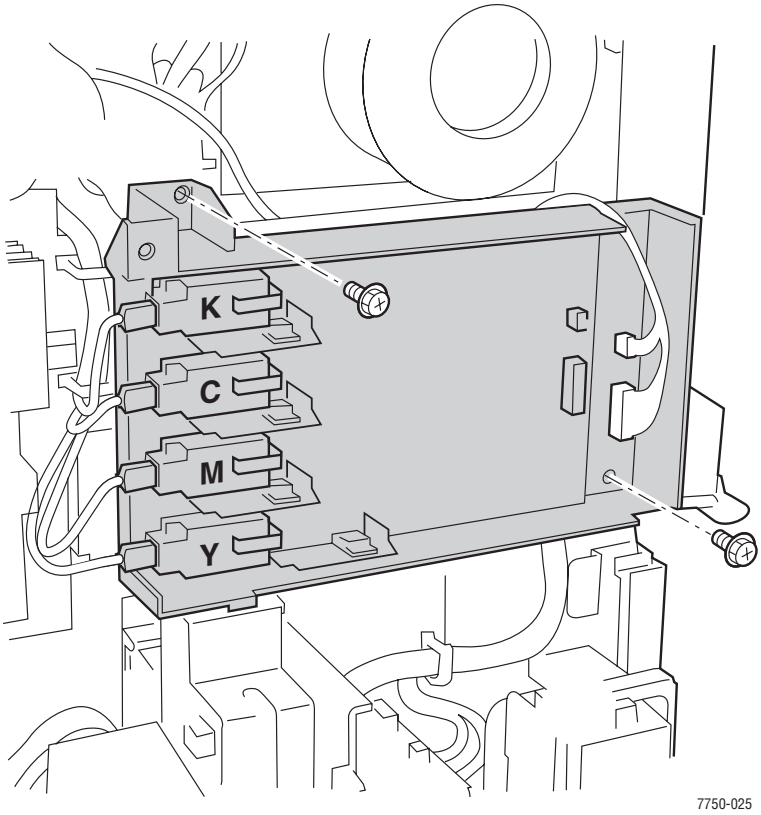
If only the power supply needs to be removed, disconnect the wiring harness and loosen the 2 screws that secure the power supply to the PS mounting bracket.

3. Disconnect the wiring harness at P502, P505, and P2 from the 24 VDC power supply and the fan motor wiring harness P214.
4. Remove the 1 screw at the top of the bracket and loosen the remaining four screws in slots.
5. Remove the power supply and bracket assembly.



T2 High-Voltage Power Supply

1. Remove the 24 VDC Power Supply and Bracket, see page 8-46.
2. Disconnect the high-voltage wires from the KCMY connectors.
3. Disconnect the wiring harness from J575 and J576.
4. Remove the 2 screws that secure the T2 power supply to the printer frame.
5. Remove the T2 high-voltage power supply.

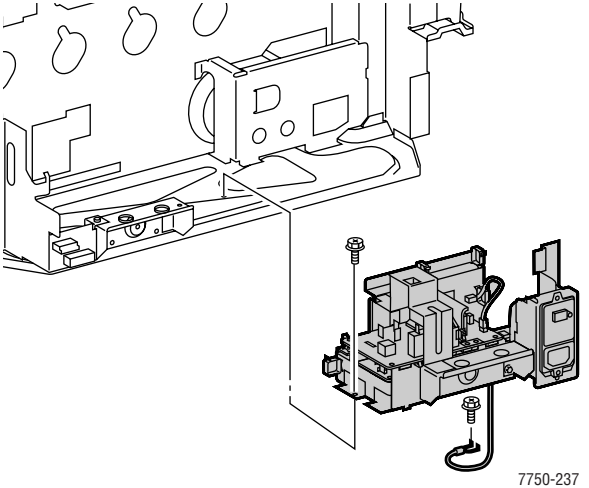


Chassis AC Power Assembly

Note

AC power (consists of the AC drive, noise filter and GFI assemblies and mounting bracket.

1. Remove the T2 high-voltage power supply.
2. Remove T1 and T3 power supply assembly.
3. Disconnect the wiring harnesses P15 and P16, the AC drive wiring harness P43 and the individual wires at J39- J40, J41 and J47 of the AC drive board.
4. Disconnect the AC wires from P15 and P16 on the Noise Filter board.
5. Clear the wiring harnesses from their retaining clips.
6. Remove the seven screws securing the chassis assembly to the printer frame.
7. Remove the complete assembly from the printer frame.



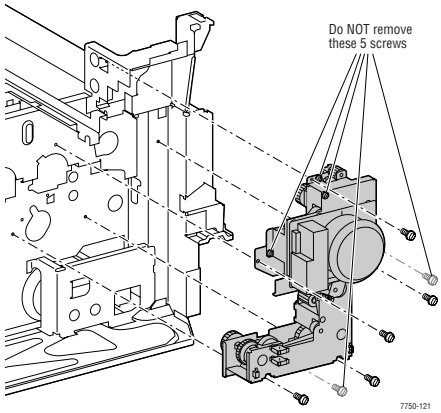
Main Drive Assembly

1. Remove the fuser.
2. Remove Tray 1 /(MPT), see page 8-9.
3. Remove the T2 high-voltage power supply, see page 8-47.
4. Disconnect the wiring harness.

Caution

There are 5 brass screws that hold the main drive assembly together. **DO NOT REMOVE** these screws.

5. Remove the 5 black screws that secure the complete main drive assembly to the printer frame.
6. Lift the complete main drive assembly up and out of the printer.



Replacement Procedures

Note

When reinstalling, rotate the main drive to ensure the gears move freely. Remove the Fuser unit to give better visibility.

1. As the main drive assembly is being installed into position, make sure the gears are meshed completely with the mating gears by slightly rotating the main motor until the main motor bracket seats without stress, and is flat against the frame.
2. Rotate the main drive after installing the assembly to ensure it rotates freely, and ensure it is FLAT against the frame.

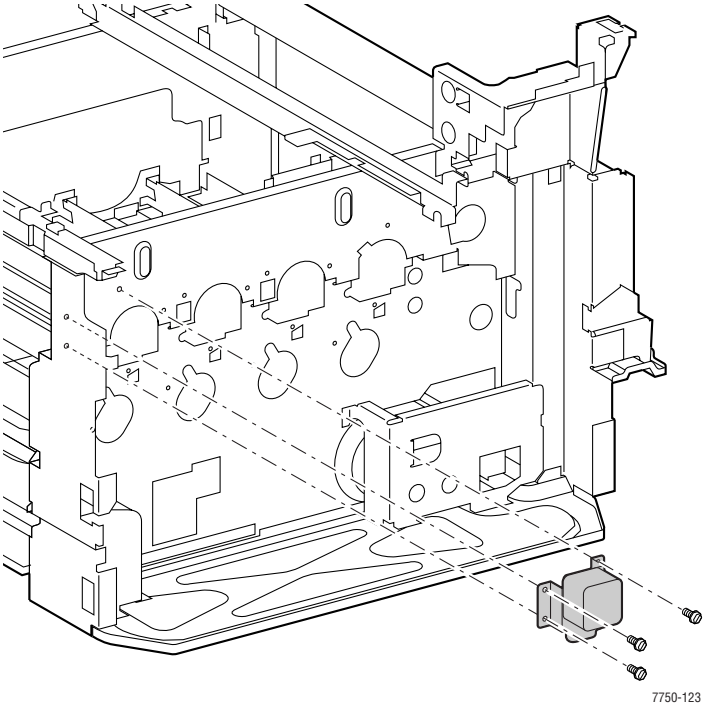
Caution

It is easy to pinch or short wires under the main drive assembly bracket.

3. Make sure that the red transfer roller wire is connected near the right side of the main drive assembly to its mating connector on the frame.

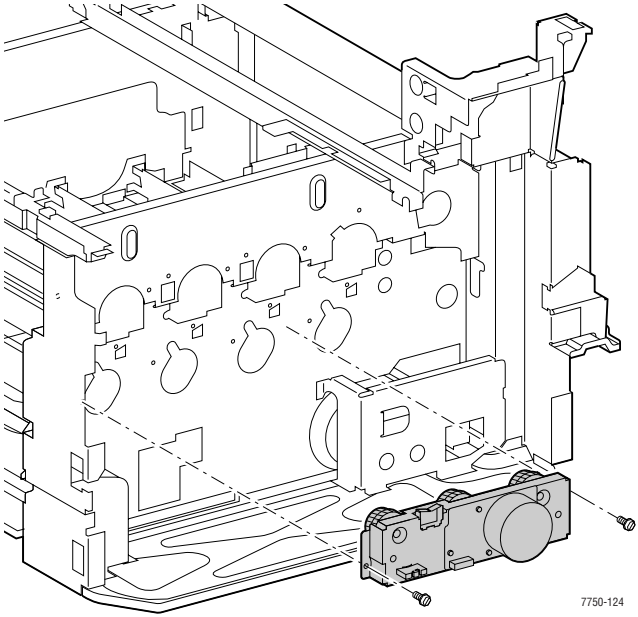
Accumulator Belt Drive Assembly

1. Remove the rear cover and shield.
2. Move the T1 and T3 power supplies out of the way.
3. Remove any components covering the motor which is mounted to the frame at the rear, top, left corner.
4. Remove the 3 screws that secures the motor and bracket assembly to the frame and remove the assembly.



Developer Drive Assembly

1. Remove the 3.3 VDC and 5 VDC power supply and bracket assembly, see page 8-44.
2. Disconnect the wiring harness from the developer drive assembly.
3. Clear the high-voltage lines.
4. Remove the 2 black screws securing the developer drive assembly to the printer frame and remove from the printer.



Replacement Procedures

Caution

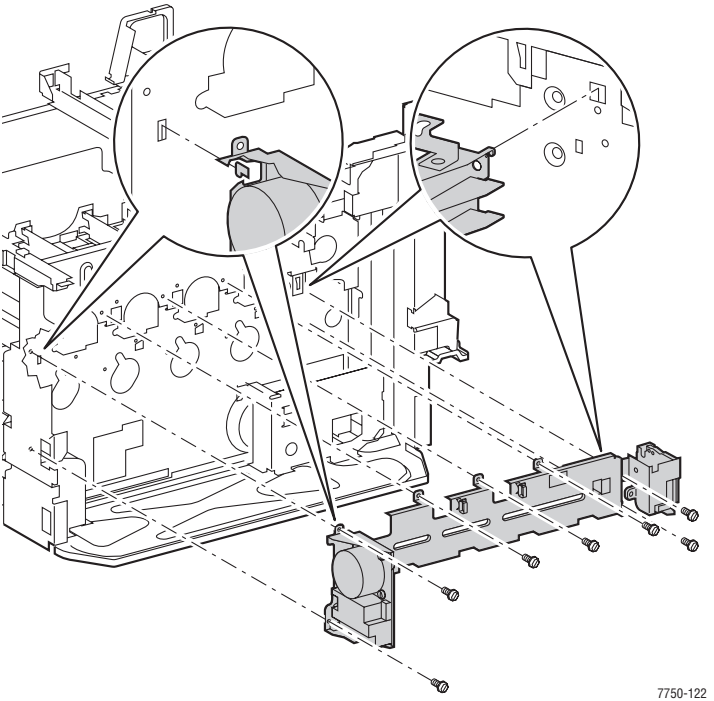
When reinstalling, ensure that the assembly seats against the frame and rotate the main drive to ensure the gears move freely.

Imaging Unit Drive Assembly

1. Remove the rear cover, see page 8-6.
2. Remove the right side cover, see page 8-4.
3. Remove the 3.3 VDC and 5 VDC Low-voltage power supply, see page 8-44.
4. Remove the 24 VDC Low-voltage power supply, see page 8-46.
5. Remove the T2 High-Voltage power supply, see page 8-47.
6. Remove the engine control interface board and bracket, see page 8-43.
7. Disconnect the wiring harnesses (1 to YMC and 1 to K) to the Print Engine Drive Assembly.
8. Remove the 2 screws securing the finisher connector (now accessible after removing the right cover assembly) and let it hang loose.
9. Remove 1 screw that is accessible through the frame access hole near the finisher connector.
10. Remove the remaining 7 screws that secure the imaging unit drive assembly to the printer frame.
11. Lift the imaging unit drive assembly up and out of the printer.

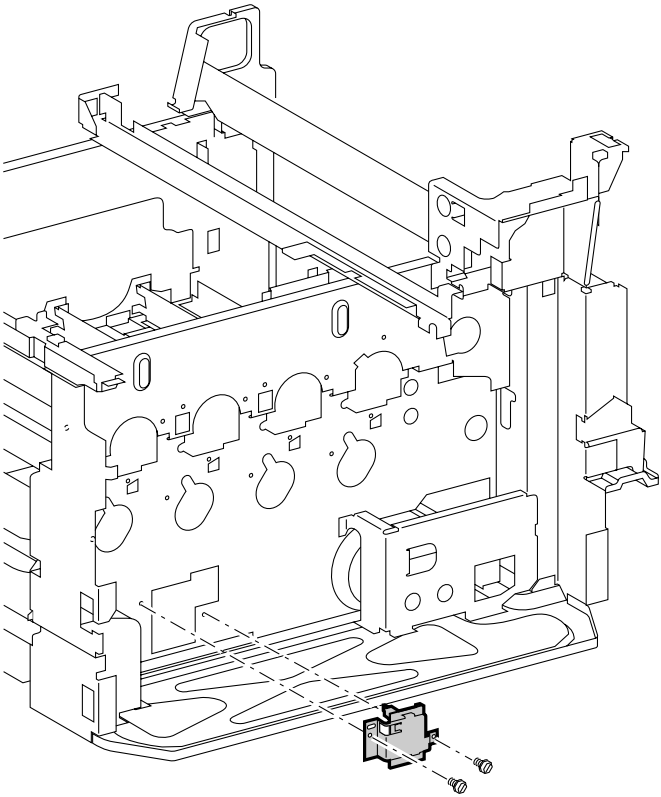
Note

Some wires will have to be removed from their clamps to clear the drive assembly.

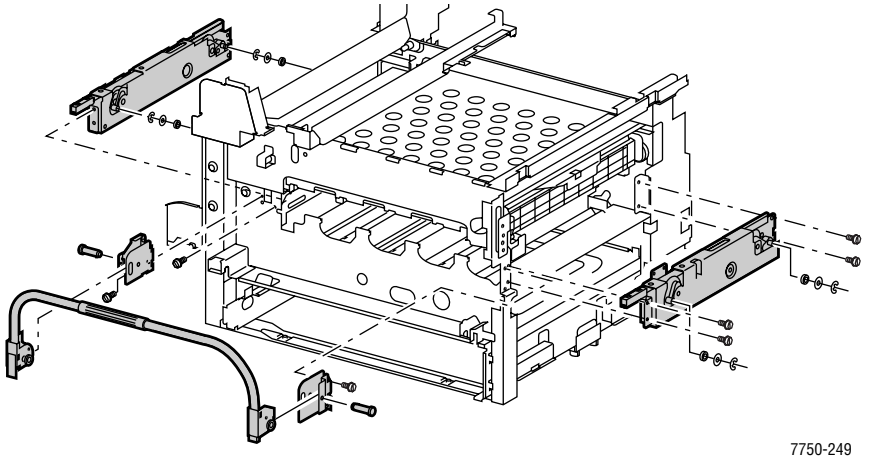


Tray 2 Paper-Select Switches

1. Remove the T1 and T3 high-voltage power supply.
2. Remove the 3.3 VDC and 5 VDC low-voltage power supplies, see page 8-44.
3. Disconnect the wiring harness from the Tray 1 paper-select switches.
4. Remove the 2 screws that secure the mounting bracket to the printer frame and remove the switch.



Main Lever Assembly



Reinstallation Procedures

Note

Slide the main lever gears under the lift jack assembly racks and lift into position. Verify that the timing marks on the main lever and the lift jack assemblies align. The main lever assembly requires extra pressure approximately 1” from the front of the printer when properly aligned.

Right-Hand Lift Jack Assembly

1. Ensure that the lift frame assembly is fully lifted and the main lever is in the down position.
2. Remove the accumulator belt assembly.
3. Remove RH cover assembly.
4. Remove the pivot pin and partially remove the main lever on the right hand side.
5. Remove the e-clips and washers from the RH lift jack assembly roller guides.
6. Remove the 4 screws that hold the RH lift jack bracket and remove the bracket.
7. Remove the 2 screws holding the waste auger assembly.
8. Remove the 4 screws holding the RH lift jack assembly and remove from the printer.

Reinstallation Procedures

Note

When reinstalling the RH lift jack assembly install the screws as follows: 1. Upper left. 2, Upper right. 3. Then the lower screws.
Verify that the timing marks on the main lever and the lift jack assembly align.

Left-Hand Lift Jack Assembly

1. Ensure that the lift frame assembly is fully lifted and the main lever is in the down position.
2. Partially remove the main drive assembly.
3. Remove the accumulator belt assembly.
4. Remove the imaging units and protect from the light.
5. Remove the LH cover assembly.
6. Remove the transport registration assembly.
7. Remove the mark-on-belt (MOB) sensor assembly.
8. Reach inside the LH cover cavity and remove the black imaging unit rail, see "Imaging Unit Rail Assembly" on page 8-24.

Caution

Cover the black developer with multiple sheets of stiff paper or cardboard to prevent damage to the developer roller and to catch e-clips and washers loosened in the next step.

The washers can fall out into the lower metal cavity. Lay something underneath to catch the washers and screws.

9. Remove the e-clips, washers, and bearings from the LH lift jack assembly roller guides.
10. Partially remove the left hand side of the main lever assembly.
11. Remove the LH lever hinge.
12. Remove the 4 screws that hold the LH lift jack bracket and remove the bracket.
13. Remove the 4 screws holding the LH lift jack assembly and remove from the printer.

Note

When reinstalling the LH lift jack assembly install the screws as follows: upper left, upper right, then the lower screws. Verify that the timing marks on the main lever and the lift jack assembly align.

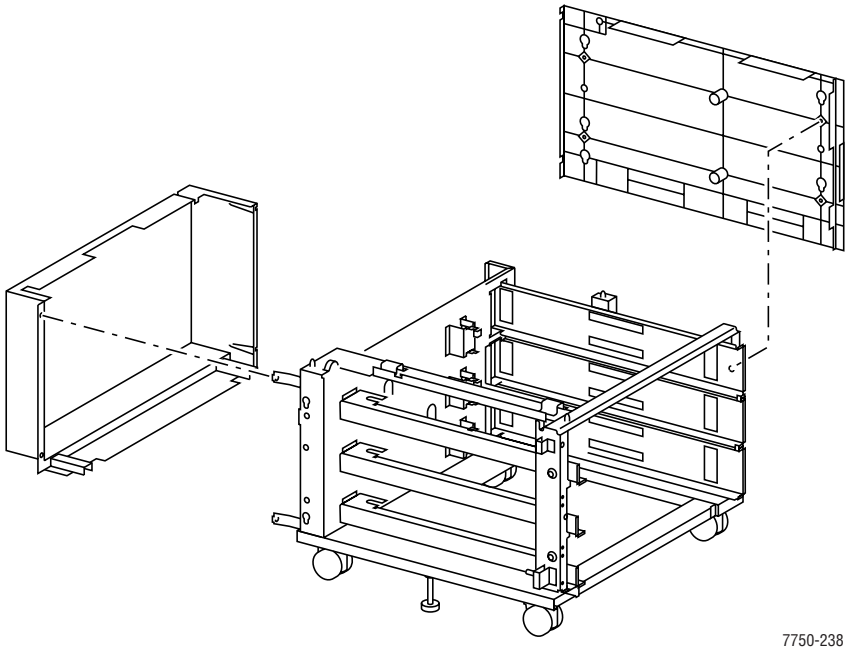
Optional Lower Trays

Right Side Door

1. Remove the 4 screws securing the right-hand cover and remove.

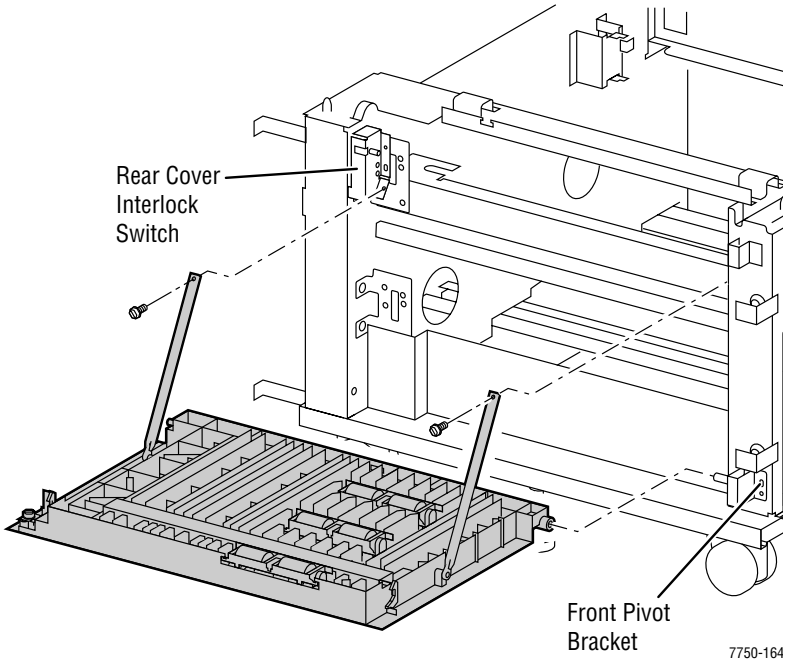
Rear Cover

1. Remove the 4 screws securing the cover.
2. Remove the rear cover.



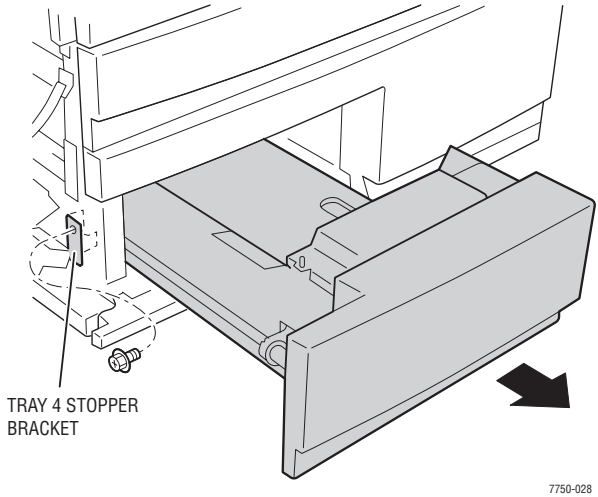
LTD/HCF Cover Assembly

1. Open Door C.
2. Remove 1 screw from each of the support straps.
3. Remove 1 screw from the cover's front pivot bracket.
4. Remove the cover assembly from the rear pivot.



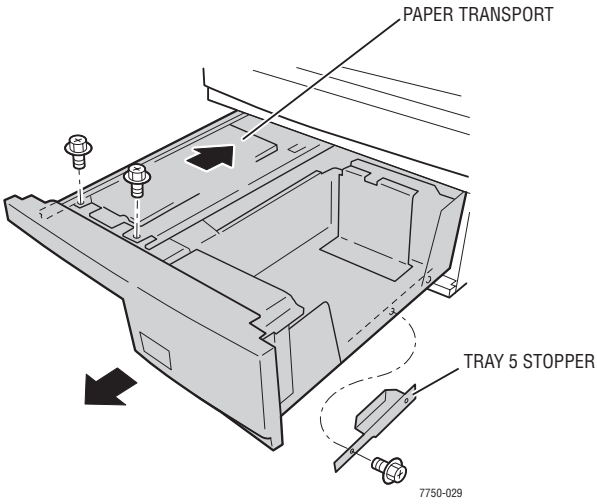
High-Capacity Feeder (HCF) Tray 4

1. On the left side of the High-Capacity Feeder, remove one screw from the Tray 4 stopper bracket and remove the bracket.
2. Pull Tray 4 out of the printer.



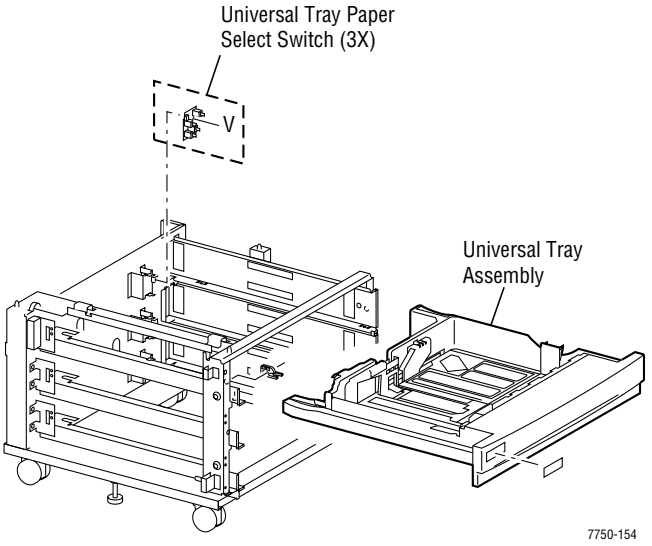
High-Capacity Feeder (HCF) Tray 5 and Paper Transport

1. Open Tray 5.
2. Remove the 2 screws that secure the Tray 5 stopper.
3. Remove the 2 screws securing the paper transport, and slide it back in.
4. Pull Tray 5 out of the printer.



LTD/HCF Feeder Paper-Select Switches

1. Remove the paper tray.
2. Reach inside the cabinet and disconnect the wire harness.
3. Reach inside the cabinet and remove the 1 screw that secures the paper-select switch.

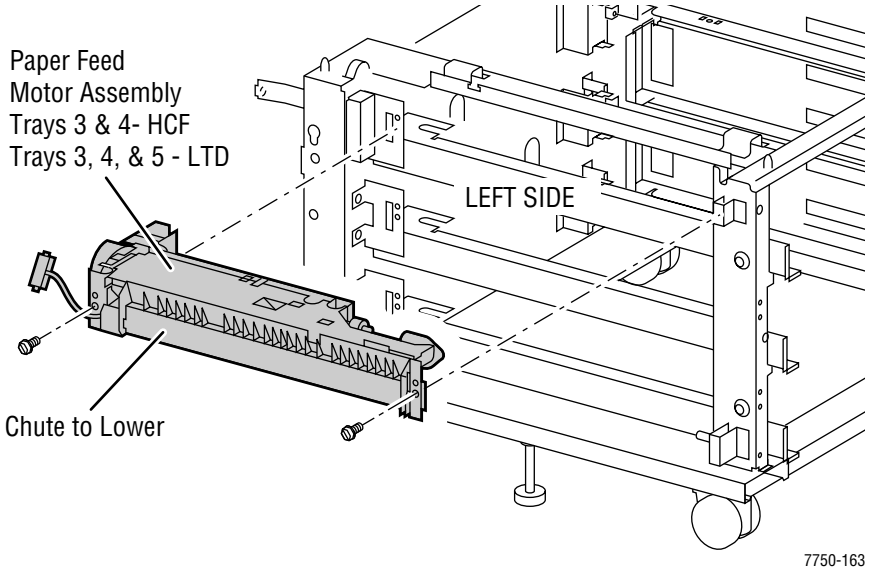


LTD/HCF Feeder Paper Feed Motor Assembly

1. Remove the left-hand cover.
2. Open the tray halfway.
3. Disconnect the wiring harness.
4. Remove the 2 screws holding the Tray 2 feeder assembly, not the screws securing the lower tray bracket.
5. Remove the tray feeder assembly.
6. Some manipulation may be required to disengage the gears.

Removal of Motor

1. Disconnect the wiring harness from the motor.
2. Remove the 2 screws securing the motor to the feeder bracket.
3. Lift the motor straight out of the bracket to clear the gear on the motor shaft.
4. When reinstalling the motor, it may be necessary to manually rotate the gears to mesh them with the other gears.



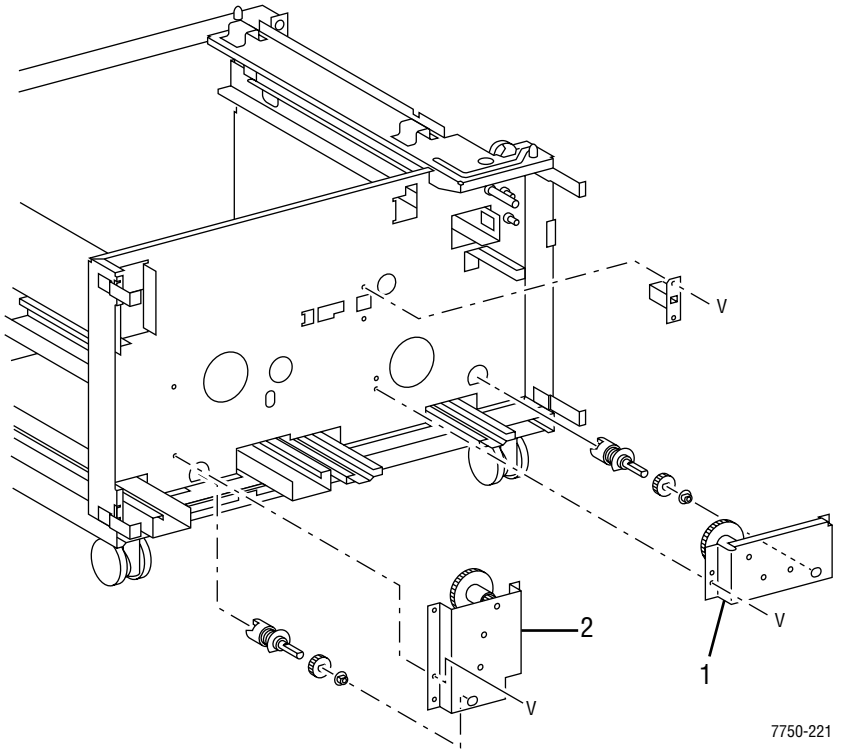
Bracket Assembly, Left-Hand and Right-Hand Gear (HCF)

1. Remove the rear cover.
2. Remove the 2 screws securing the bracket assembly (Gear RH (2) or Gear LH (1)) to the frame.
3. Remove the bracket assembly.

Replacement Procedures

Note

There are locating pins for each bracket.



Service Parts Lists

In this chapter...

- Serial Number Format
- Using the Parts List
- Hardware Kits
- Recommended Service Tools

Chapter 9

Serial Number Format

Changes to Xerox products are made to accommodate improved components as they become available. It is important when ordering parts to include the following information:

- Component's part number
- Product type or model number
- Serial number of the printer

Serial numbering. Particular fields in the serial number indicate the modification level of the printer, the date of its manufacture and the sequence number of the printer produced on that day.

The serial number is coded as follows:

- The text **"S/N"** followed by the serial number in the barcode.
- The barcode **does not** include a field identifier.
- The nine digit serial number is based on the following format: **PPPRSSSSS**

PPP = Three digit alphanumeric product code

Product	Model	Voltage	Product Code
7750	B, DN, GX, DXF	110V	RRW
7750V	B, DN, GX, DXF	220V	RTG

R - Single digit numeric revision digit. To be rolled when a major product change occurs. Initiated with a change request.

SSSSS - Five digit numeric serial number.

Serial Number Example:

RRW453072:

RRW = Product code for the 110V Printer

4 = Revision level

53072 = Serial number

Using the Parts List

1. **No.:** The callout number from the exploded part diagram.
2. **Part Number:** The material part number used to order specific parts.
3. **Qty:** This number represents the parts per printer, not the number of parts supplied in the actual part order.
4. **Name/Description:** Details the name of the part to be ordered and the number of parts supplied per order.
5. Parts identified throughout this manual are referenced **PL#.#.#**; For example, PL3.1.10 means the part is item 10 of Parts List 3.1.
6. A black triangle preceding a number followed by a parenthetical statement in an illustrated parts list means the item is a parent assembly, made up of the individual parts called out in parentheses.
7. The notation "**with X~Y**" following a part name indicates an assembly that is made up of components X through Y. For example, "1 (with 2~4)" means part 1 consists of part 2, part 3, and part 4.
8. An asterisk (*) following a part name indicates the page contains a note about this part.
9. The notation (NS) next to a part indicates that particular part is not spared, but contained in a kit or major assembly.
10. The notation "**J1<>J2 and P2**" is attached to a wire harness. It indicates that connector Jack 1 is attached to one end of the wire harness and connector J2 is attached to the other end that is plugged into P2.

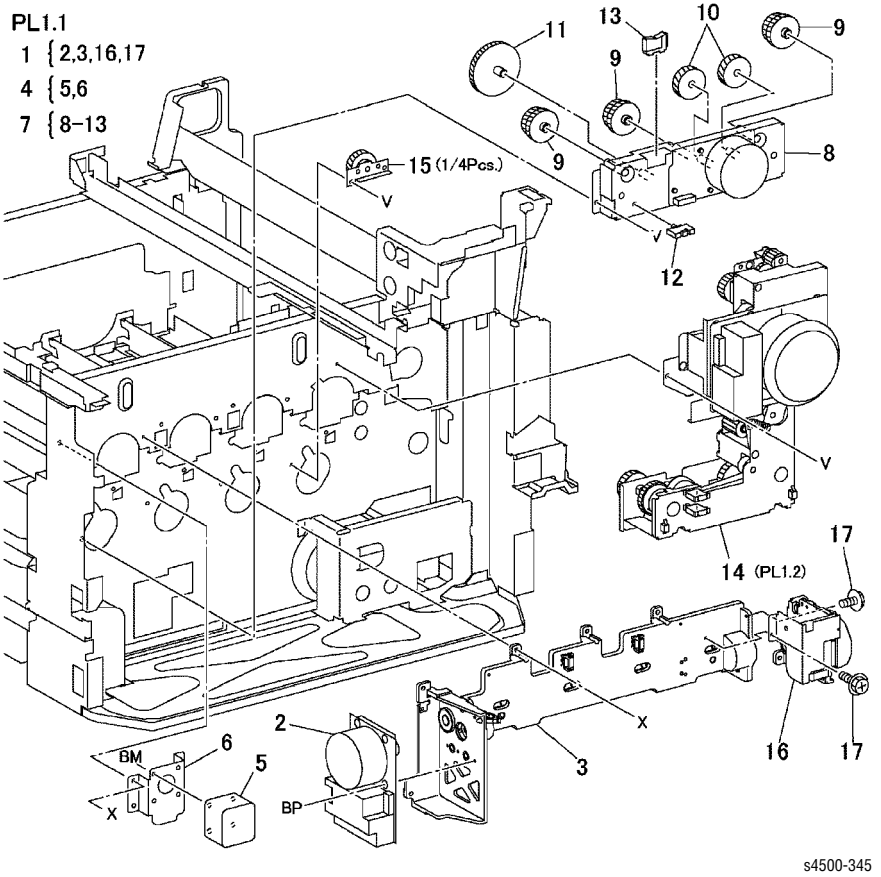
Note

Only parts showing part numbers are available for support. Parts not showing part numbers are available on the parent assembly.

Legend:

Identifier	Meaning
C	C-ring
E	E-ring
KL	K-clip
S	Screw
p/o	Part of...
N/S	Not Spared

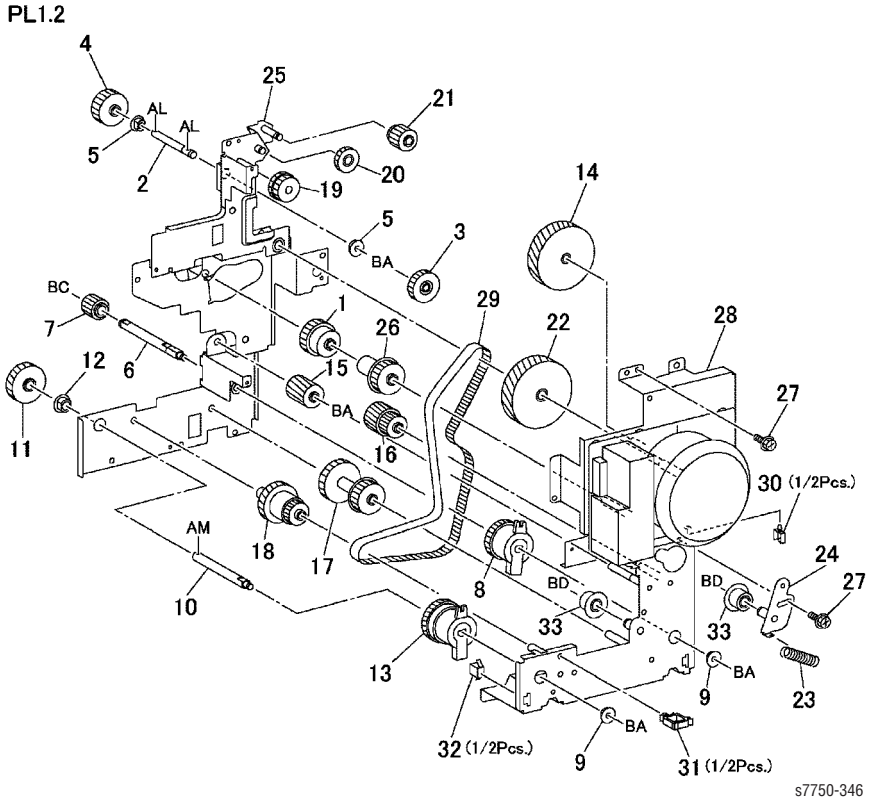
Parts List 1.1 Drive Unit



Drive Unit PL 1.1

No.	Part number	Qty	Part Description and (part name)
1	116-1752-00		Drum Drive Assembly (DRIVE ASSY DRUM)
4	116-1753-00		Accumulator Belt Drive (DRIVE ASSY IBT)
7	116-1754-00		Developer Drive Assembly (DRIVE ASSY-DEVE)
14	116-1755-00		Main Drive Assembly (DRIVE ASSY-MAIN)
15	116-1756-00		Developer Gear Assembly (GEAR ASSY-DEVE)

Part List 1.2 Main Drive Motor Assembly

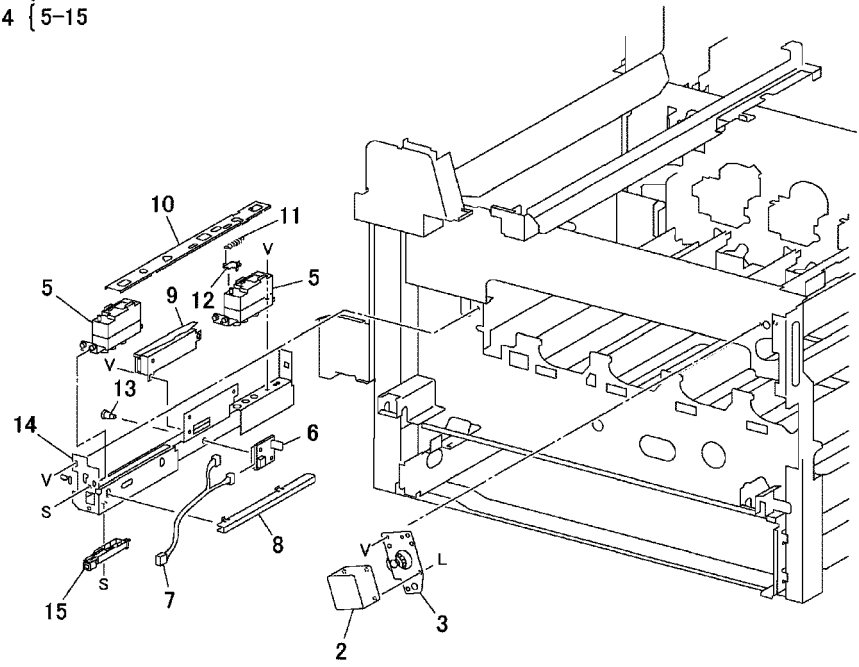


Main Drive Motor Assembly PL 1.2

No.	Part number	Qty	Part Description and (part name)
13	116-1539-00		Developer Clutch Assembly (CLUTCH ASSY DEVE)

Part List 1.3 Steering Motor and MOB

PL1.3
1 {2,3
4 {5–15



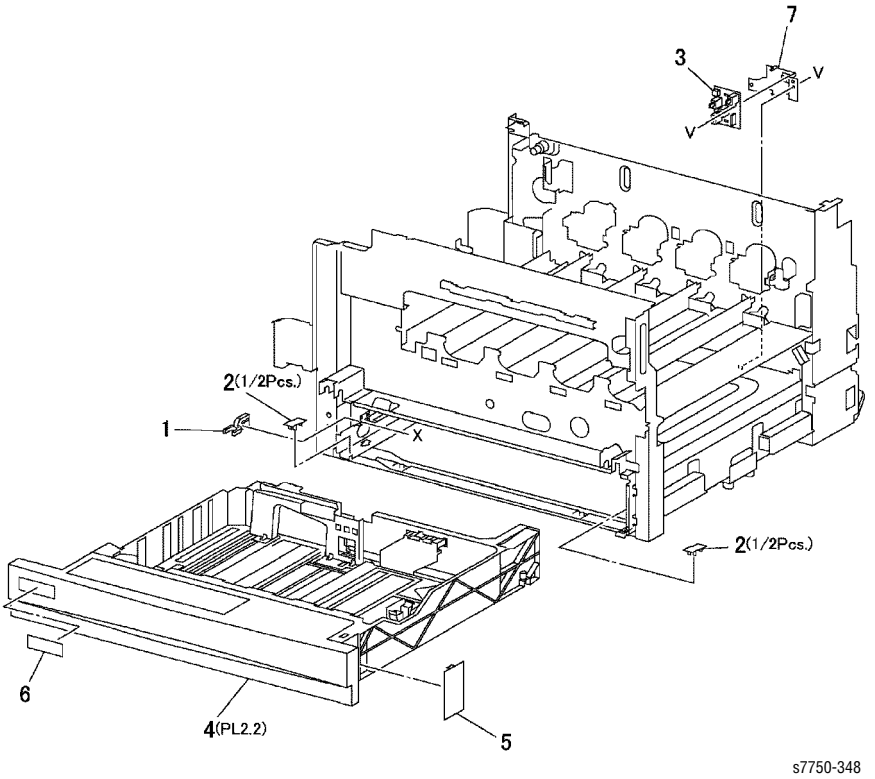
s7750-347

Steering Motor and Mark-On-Belt PL 1.3

No	Part number	Qty	Part Description and (part name)
1	116-1104-00		Belt Steering Drive Assembly (DRIVE ASSY STEERING)
4	116-1124-00		Mark On Belt Sensor Assembly (SENSOR ASSY-MOB)

Part List 2.1 Tray 2

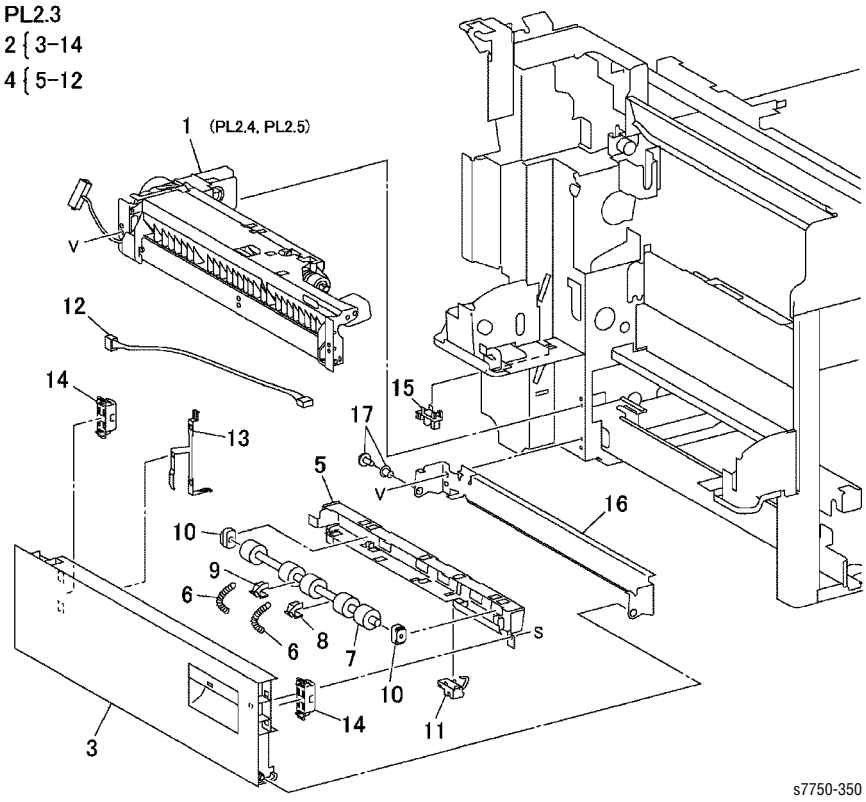
PL2.1



Tray 2 PL 2.1

No	Part number	Qty	Part Description and (part name)
1	116-1093-00		Tray Stopper (STOPPER TRAY)
2			Spacer N/S
3	116-1126-00		Paper Supply Switch Assembly (SWITCH ASSY-P.S)
4	119-6504-00		Tray 2 (Universal Tray)

Part List 2.3 Tray Feeder and Left Lower Cover Assy

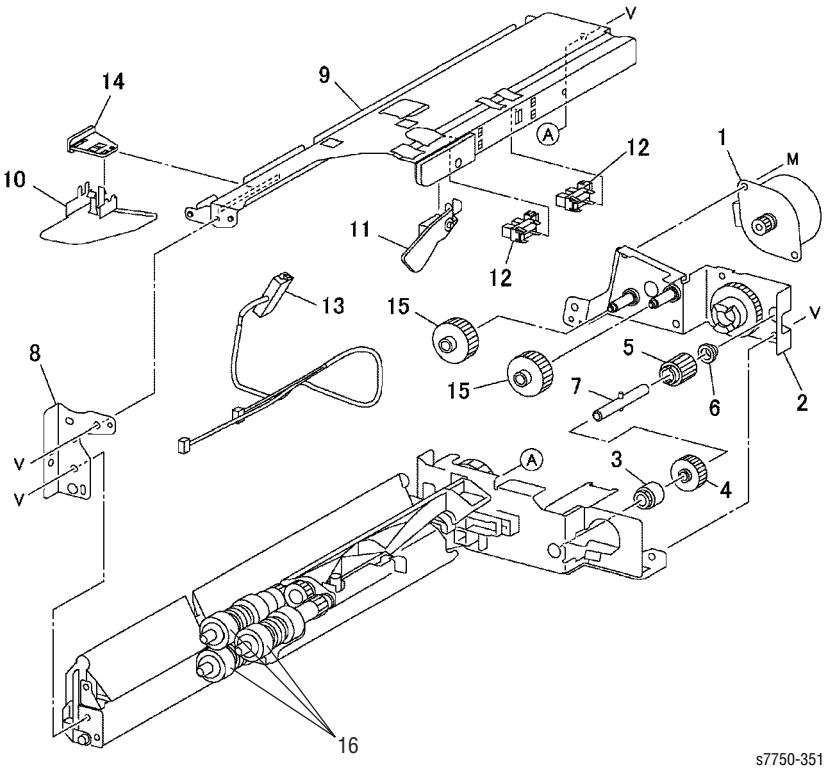


Tray 2 Feeder and Left Lower Cover Assembly PL 2.3

No	Part number	Qty	Part Description and (part name)
1	116-1160-00		Tray 2 Feeder Assembly (FEEDER ASSY)
2	116-1181-00		Lower LH Cover Assembly (COVER ASSY LH LOW)
16	116-1757-00		Lower Chute

Part List 2.4 Tray 2 Feeder

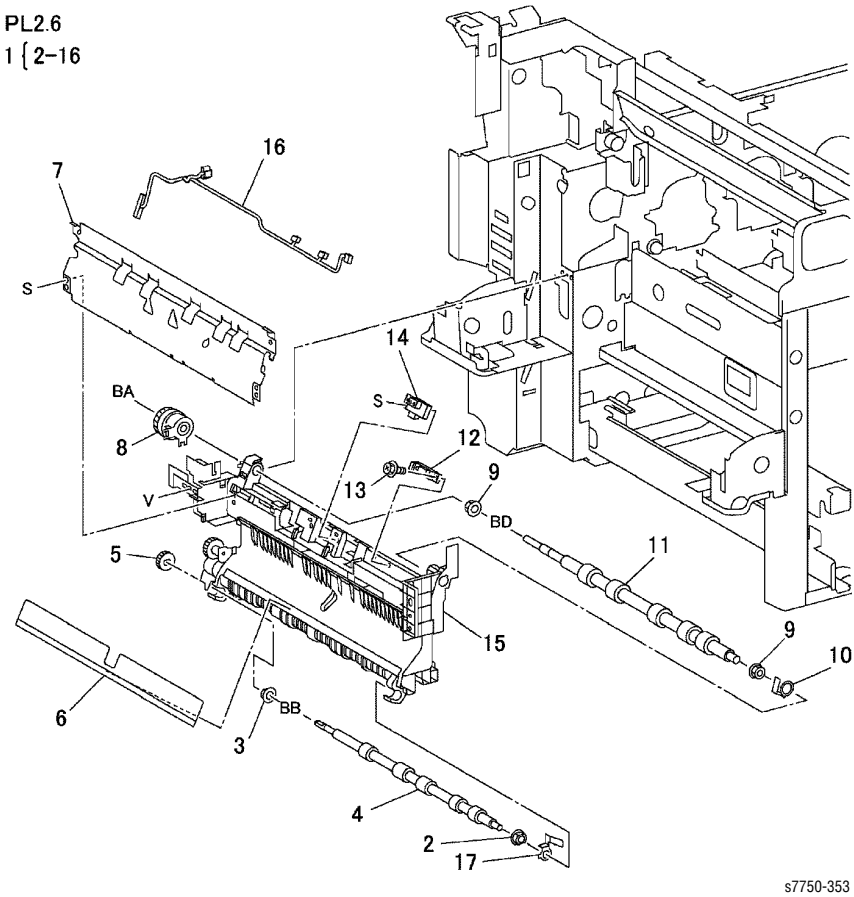
PL2.4



Tray 2 Feeder PL 2.4

No	Part number	Qty	Part Description and (part name)
1	116-1109-00		Motor Assembly (MOTOR ASSY)
16	116-1211-00		Roller Kit

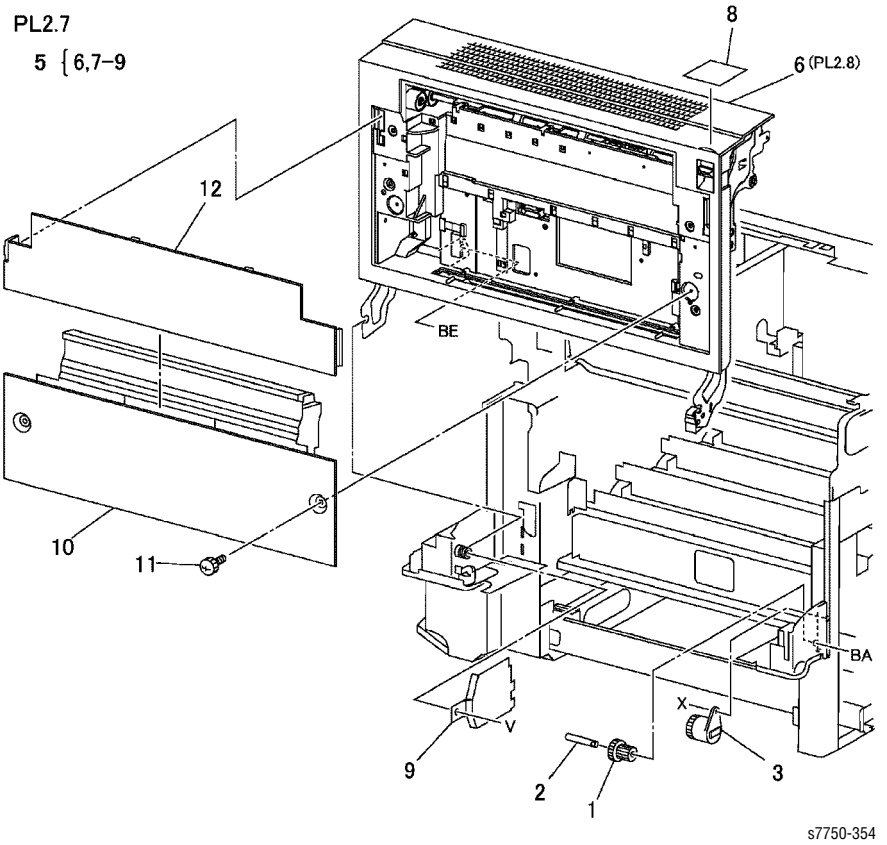
Part List 2.6 Registration Transport



Registration Transport PL 2.6

No	Part number	Qty	Part Description and (part name)
1	116-1758-00		Registration Transport Assembly (TRNSPORT ASSY-REGI)

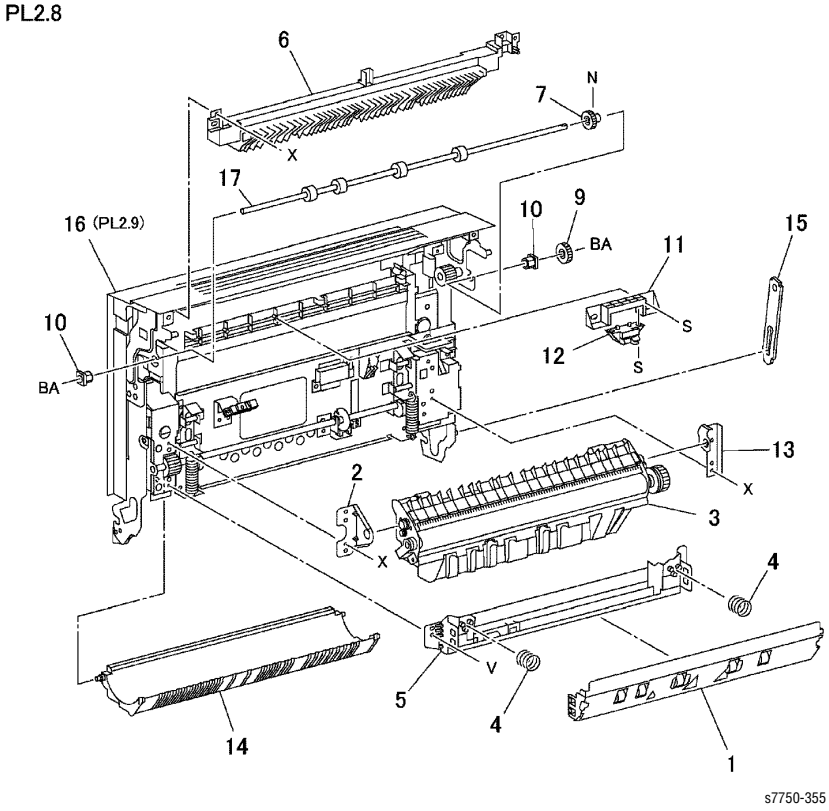
Part List 2.7 Left Cover Unit



Left Cover Unit PL 2.7

No	Part number	Qty	Part Description and (part name)
1	116-1540-00		11/23T Tooth Damper Gear (GEAR DAMPER 11T/23T)
3	116-1541-00		Left Hand Damper Gear (White) (DAMPER-LH)
5	116-1182-00		Left Hand Cover Assembly (COVER ASSY-L/H OPB)

Part List 2.8 Left Cover Assembly: 1 of 2



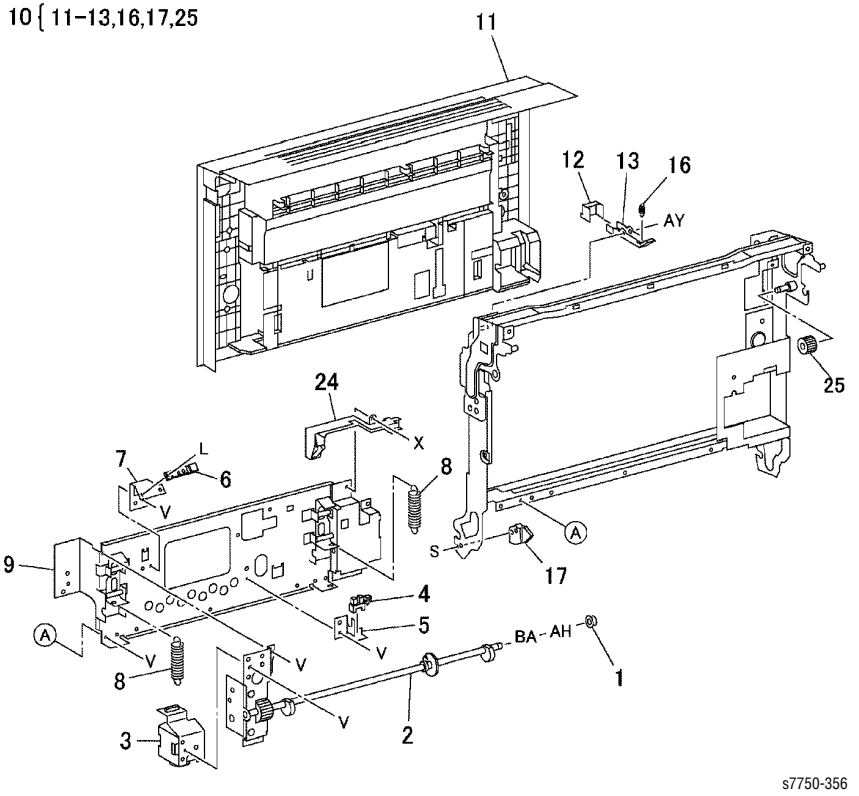
Left Cover Assembly: 1 of 2 PL 2.8

No	Part number	Qty	Part Description and (part name)
3	108R00579		2nd BTR/Transfer Roller Assembly (2NDBTR ASSEMBLY)
12	116-1543-00		Exit Switch Assembly (SWITCH ASSY-EXIT
14	116-1098-00		Duplex Chute Assembly (CHUTE ASSY-DUP)
16	116-1182-00		Left Cover Assembly
17	116-1759-00		Exit Roller Assembly

Part List 2.9 Left Cover Assembly: 2of 2

PL2.9

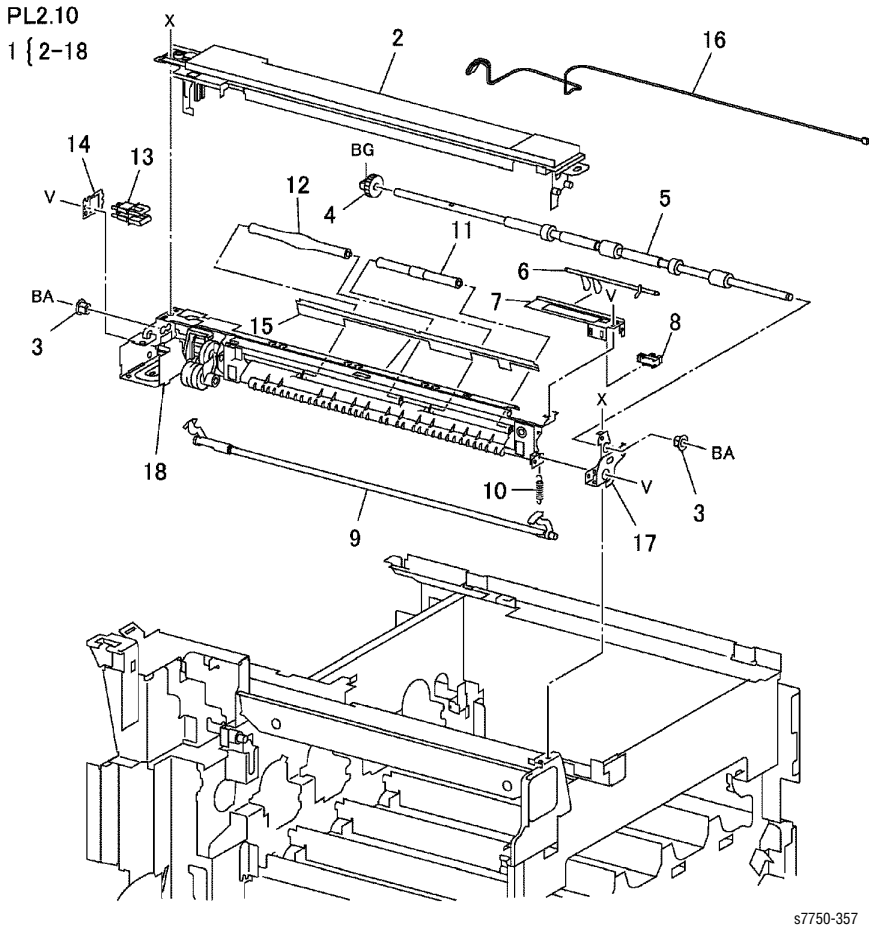
10 { 11–13,16,17,25



Left Cover Assembly: 2 of 2 PL 2.9

No	Part number	Qty	Part Description and (part name)
3	116-1760-00		Second Motor Assembly (MOTOR ASSY-2ND)
6	116-1544-00		Paper on Belt (POB) Sensor
17	114-1542-00		Damper Gear (45Tooth) (GEAR ASSY-DAMPER 45T)

Part List 2.10 Exit Transport Assembly

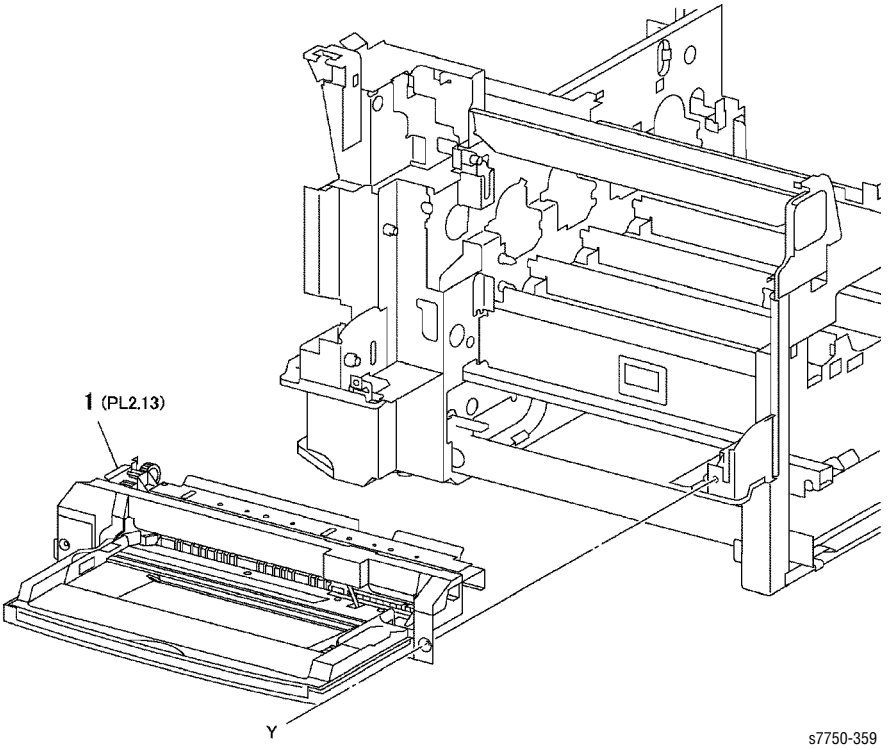


Exit Transport Assembly PL 2.10

No	Part number	Qty	Part Description and (part name)
1	116-1762-00		Exit Transport
2	116-1196-00		Exit Transport Cover

Part List 2.12 Tray 1: 1 of 2

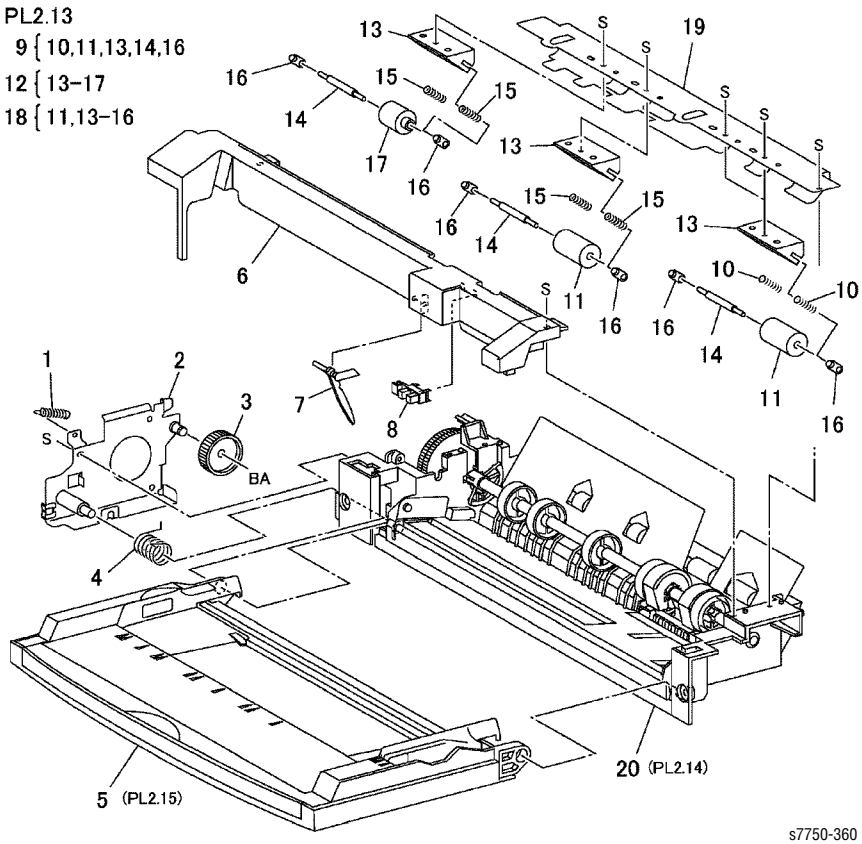
PL2.12



Tray 1: 1 of 2 PL 2.12

No	Part number	Qty	Part Description and (part name)
1	116-1763-00		Tray 1/MPT (FEEDER ASSY-MSI)

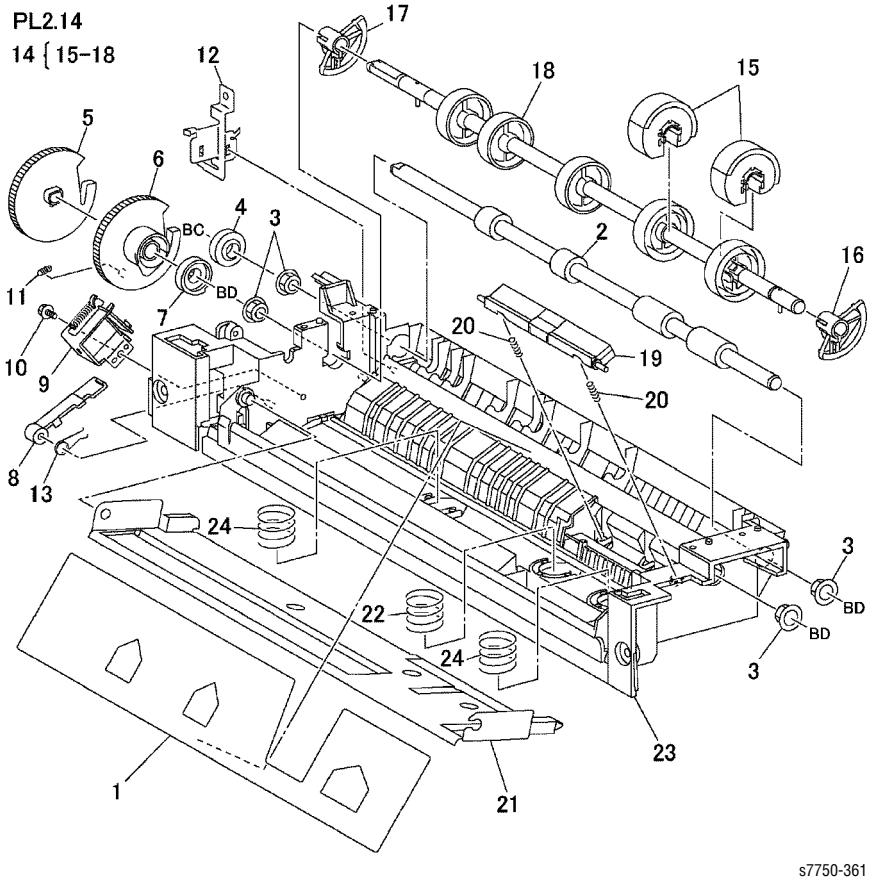
Part List 2.13 Tray 1: 2 of 2



Tray 1 PL 2.13

No	Part number	Qty	Part Description and (part name)
5	116-1763-00		Tray 1/MPT Extension

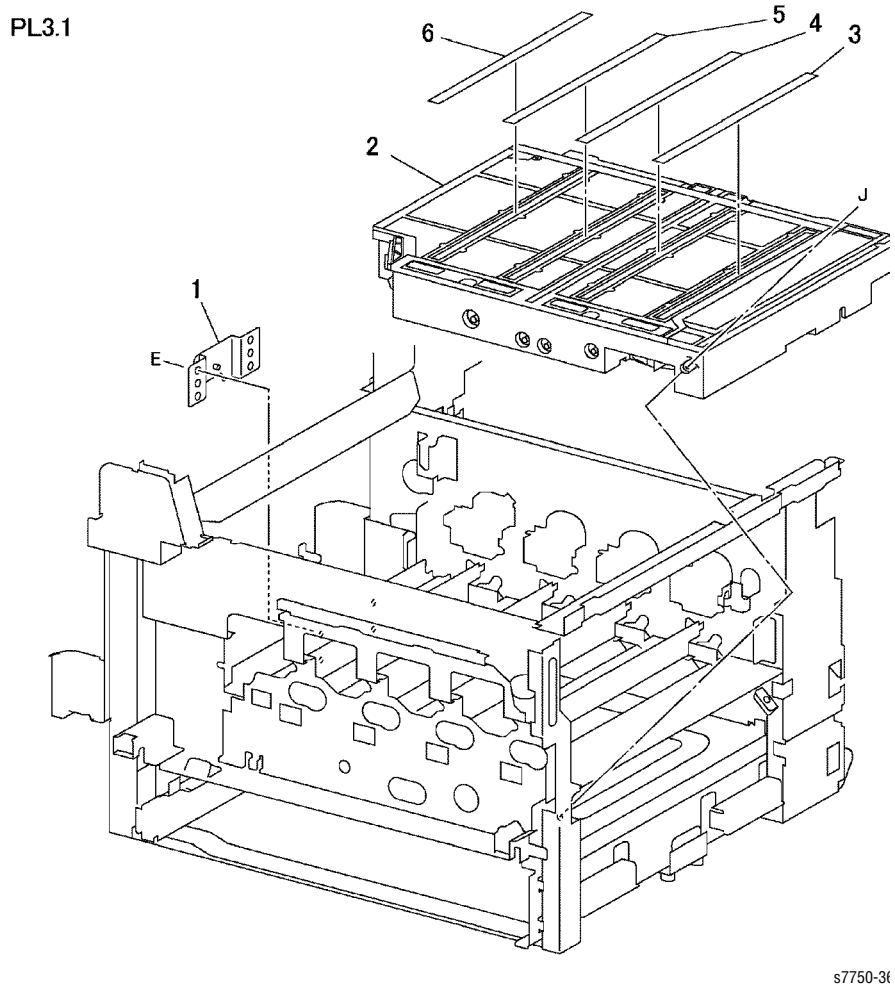
Part List 2.14 Tray 1 Feed Assembly



Tray 1 Feed Assembly PL 2.14

No	Part number	Qty	Part Description and (part name)
14	116-1765-00		Feed Roller Assembly (ROLLER ASSY-FEED)
15	116-1820-00	2	Feed Roller Kit
19	116-1166-00		Retard Pad (PAD ASSY-RETARD)
22	116-1766-00		Spring Middle
24	116-1767-00		Spring Front and Rear

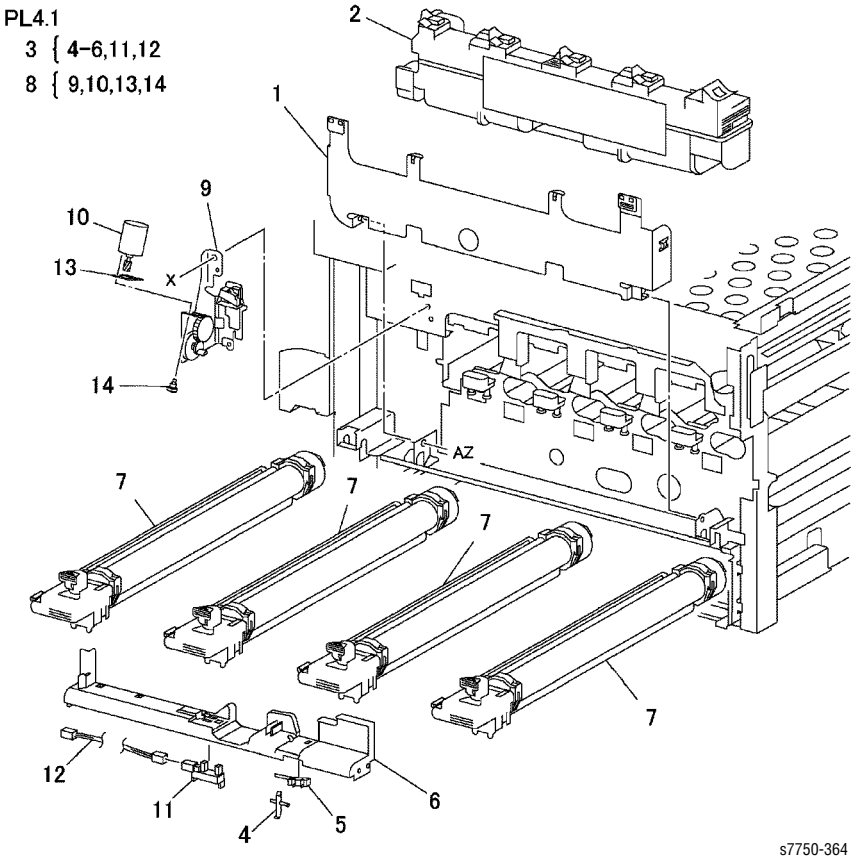
Part List 3.1 Laser (ROS) Assembly



Laser ROS Assembly PL 3.1

No	Part number	Qty	Part Description and (part name)
2	116-1768-00		Laser Assembly (ROS ASSEMBLY)

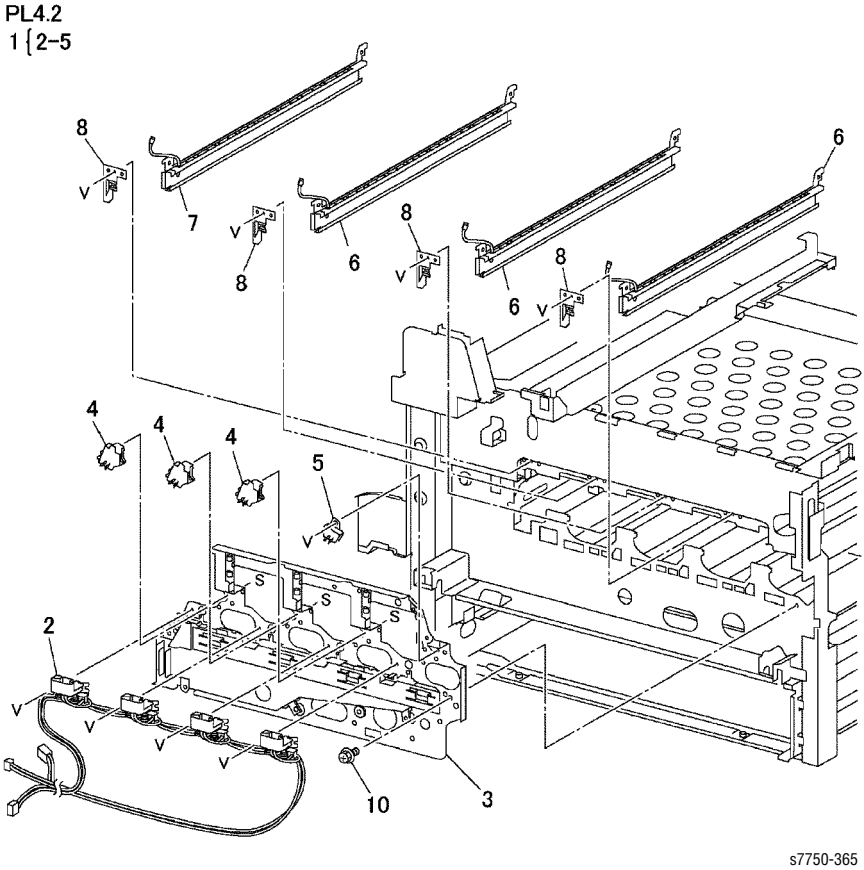
Part List 4.1 Xerographic Module: 1 of 2



Xerographic Module 1 of 2 PL 4.1

No	Part number	Qty	Part Description and (part name)
2	108-R005-75		Waste Toner Cartridge
3	116-1138-00		Sensor Holder Assembly (HOLDER ASSY-SNS)
7	108-R005-81		Imaging Unit
8	116-1101-00		Agitator Motor Assembly (MOTOR ASSY-AGT)

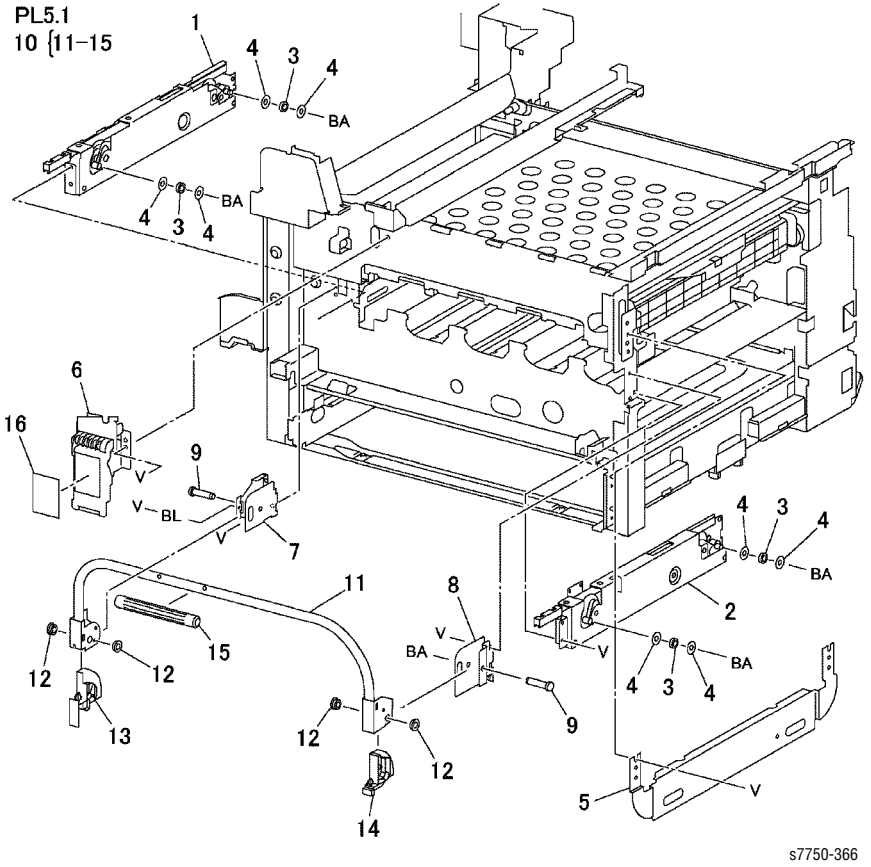
Part List 4.2 Xerographic Module: 2 of 2



Xerographic Module 2 of 2 PL 4.2

No	Part number	Qty	Part Description and (part name)
1	116-1769-00		Xerographic Plate Assembly (PLATE ASSY-XERO OPB)
6	116-1770-00		Image Unit Mounting Rail Y, M, C (ERASE ASST YMC)
7	116-1771-00		Image Unit Mounting Rail K (ERASE ASST)

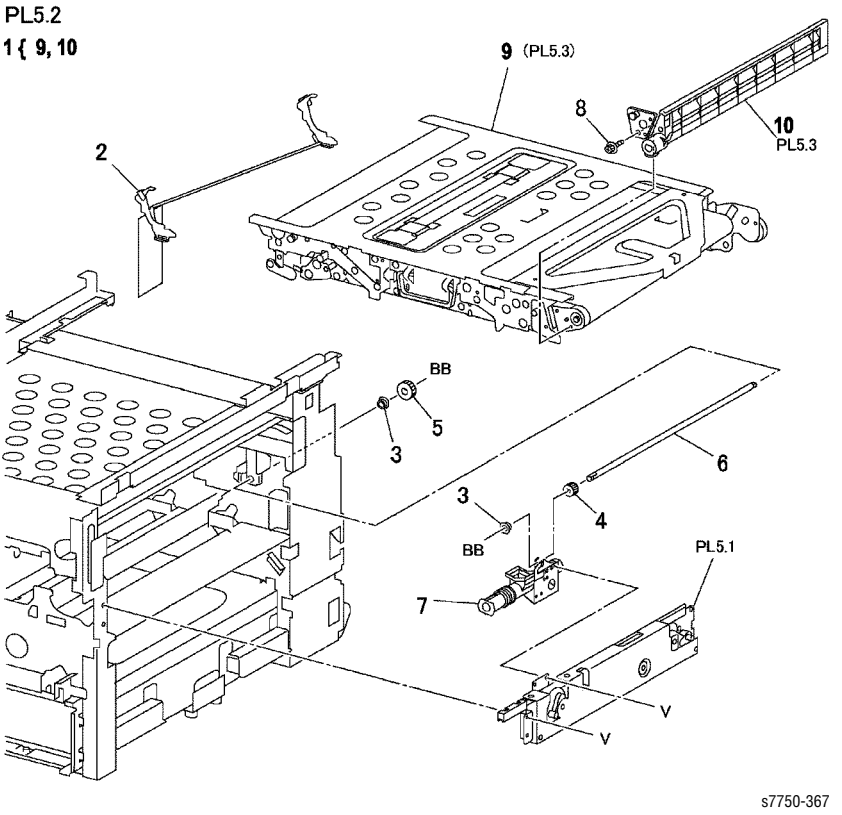
Part List 5.1 Lift Unit



Lift Unit PL 5.1

No	Part number	Qty	Part Description and (part name)
1	116-1198-00		LH Frame Lift Assembly (FRAME ASSY-LIFT LH)
2	116-1199-00		RH Frame Lift Assembly (FRAME ASSY-LIFT RH)
3	116-1772-00		Bearing
4	116-1773-00		Washer
5			Plate N/S
6	116-1202-00		Lift Arm Latch Assembly (LATCH ASSY-AST)
7	116-1200-00		LH Handle Hinge (HINGE-HANDLE LH)
8	116-1201-00		RH Handle Hinge (HINGE HANDLE RH)
9	116-1203-00		Pivot Pin (SHAFT MAIN)
10	116-1204-00		Main Lift Handle Assembly (LEVER ASSY-MAIN)

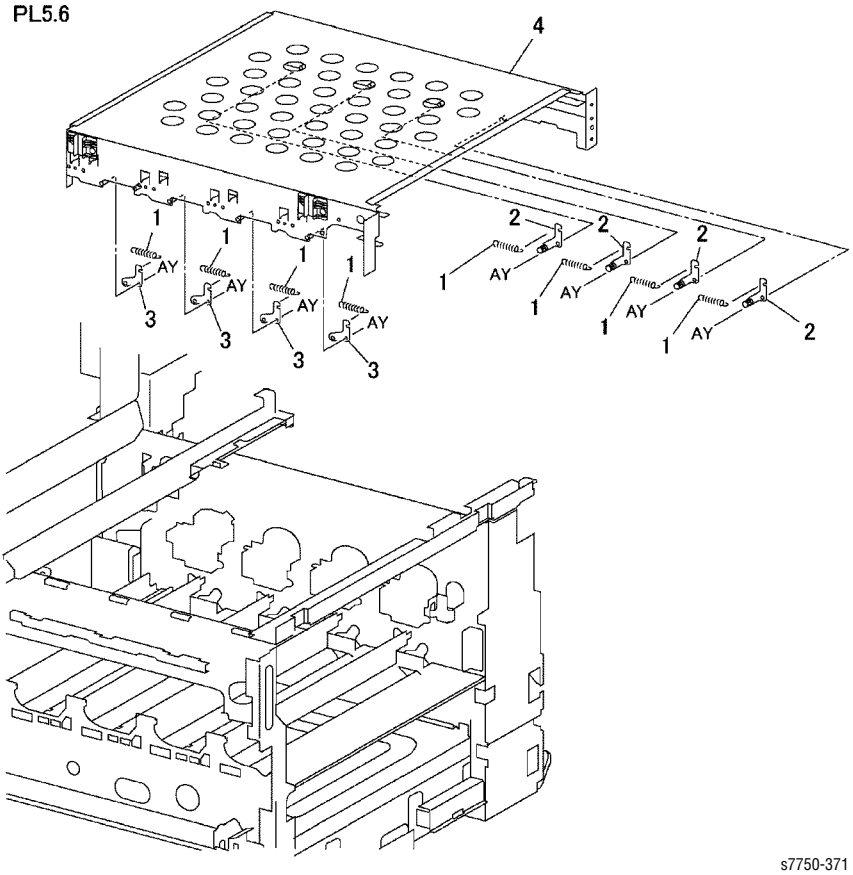
Part List 5.2 Accumulator Belt Assembly



Accumulator Belt Assembly PL 5.2

No	Part number	Qty	Part Description and (part name)
1	116-1774-00		Accumulator Belt Assembly (KIT IBT-UNIT OPB)
7	116-1180-00		Waste Toner Auger Assembly (AUGER ASSY)
10	108-R005-80		Accumulator Belt Cleaner Assembly

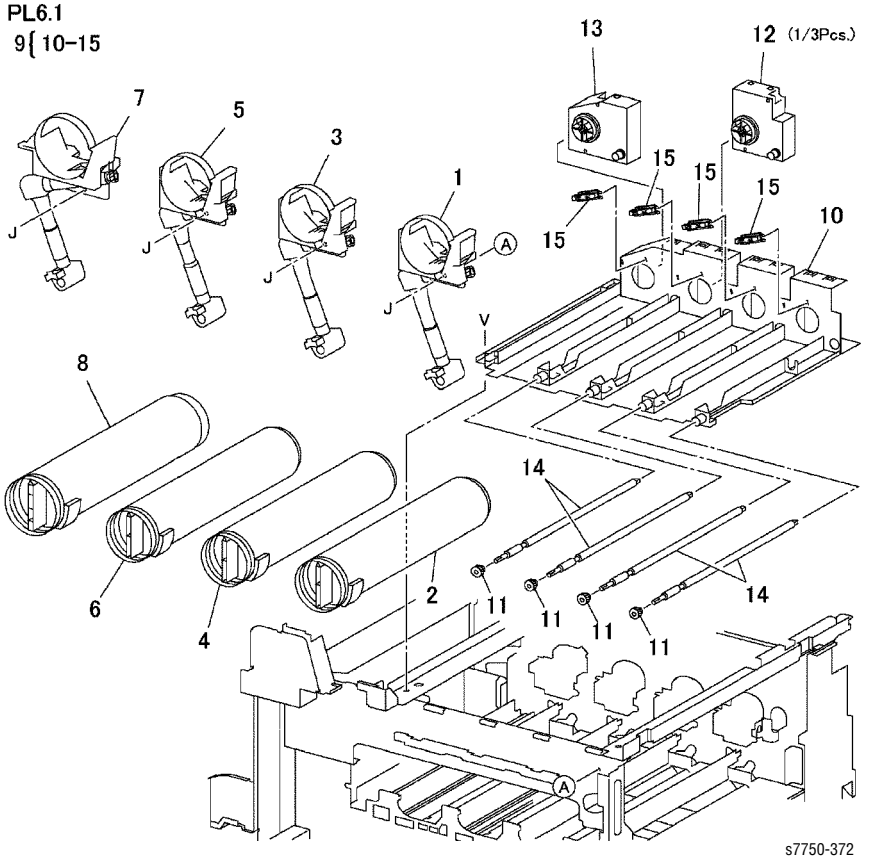
Part List 5.6 Accumulator Belt Elevator



Accumulator Belt Elevator PL 5.6

No	Part number	Qty	Part Description and (part name)
4	116-1777-00		Accumulator Belt Elevator (IBT ELEVATOR FRAME) includes items 1 - 4

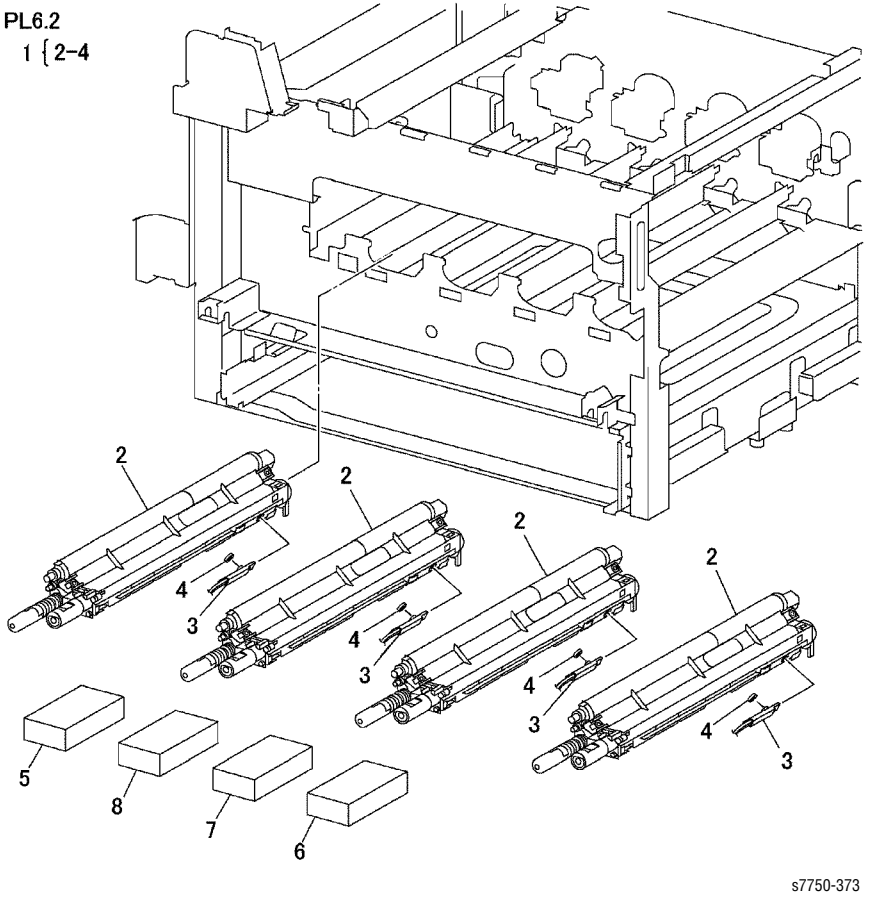
Part List 6.1 Developer Unit: 1 of 2



Developer Unit: 1 of 2 PL 6.1

No	Part number	Qty	Part Description and (part name)
1	116-1778-00		Yellow Toner Dispenser (DISP ASSY Y)
2	106-R006-51		Yellow Toner Cartridge
3	116-1779-00		Magenta Toner Dispenser (DISP ASSY M)
4	106-R006-50		Magenta Toner Cartridge
5	116-1780-00		Cyan Toner Dispenser (DISP ASSY C)
6	106-R006-49		Cyan Toner Cartridge
7	116-1781-00		Black Toner Dispenser (DISP ASSY K)
8	106-R006-48		Black Toner Cartridge
9	116-1782-00		Toner Dispenser Base Assembly (BASE ASSY DISP)

Part List 6.2 Developer Unit: 2 of 2

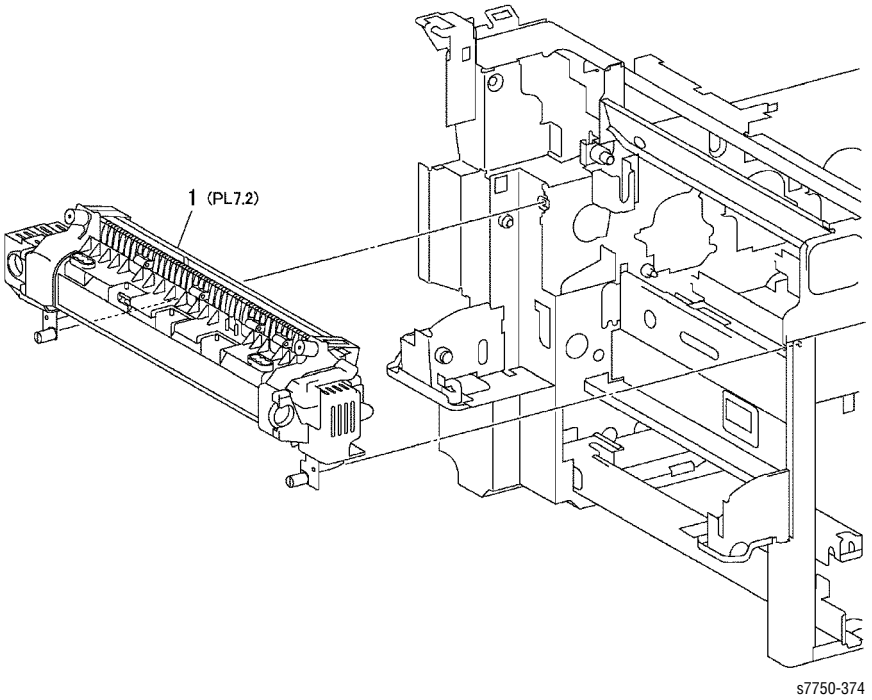


Developer Unit: 2 of 2 PL 6.2

No	Part number	Qty	Part Description and (part name)
1	116-1783-00		Developer Housing (HSG ASSY DEVE)
5	116-1784-00		Black Developer Beads (Developer K)
6	116-1785-00		Yellow Developer Beads (Developer Y)
7	116-1786-00		Magenta Developer Beads (Developer M)
8	116-1787-00		Cyan Developer Beads (Developer C)

Part List 7.1 Fuser Assembly

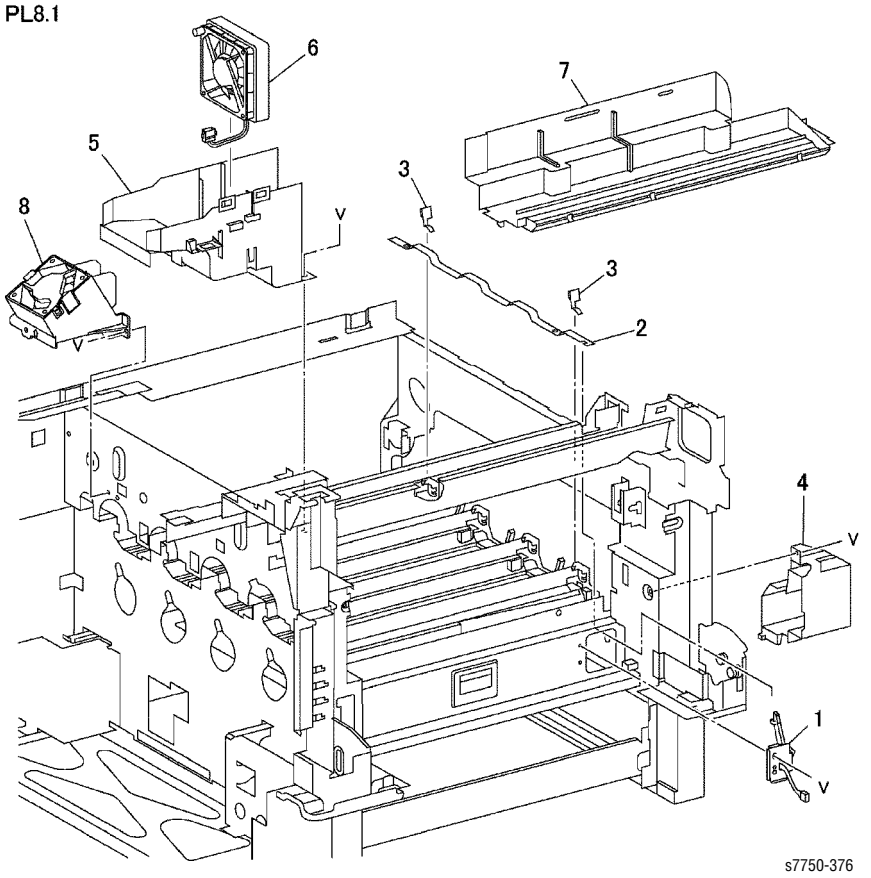
PL7.1



Fuser Assembly PL 7.1

No	Part number	Qty	Part Description and (part name)
1	115-R000-25 115-R000-26		Fuser Assembly (110V) Fuser Assembly (220V)

Part List 8.1 Air System

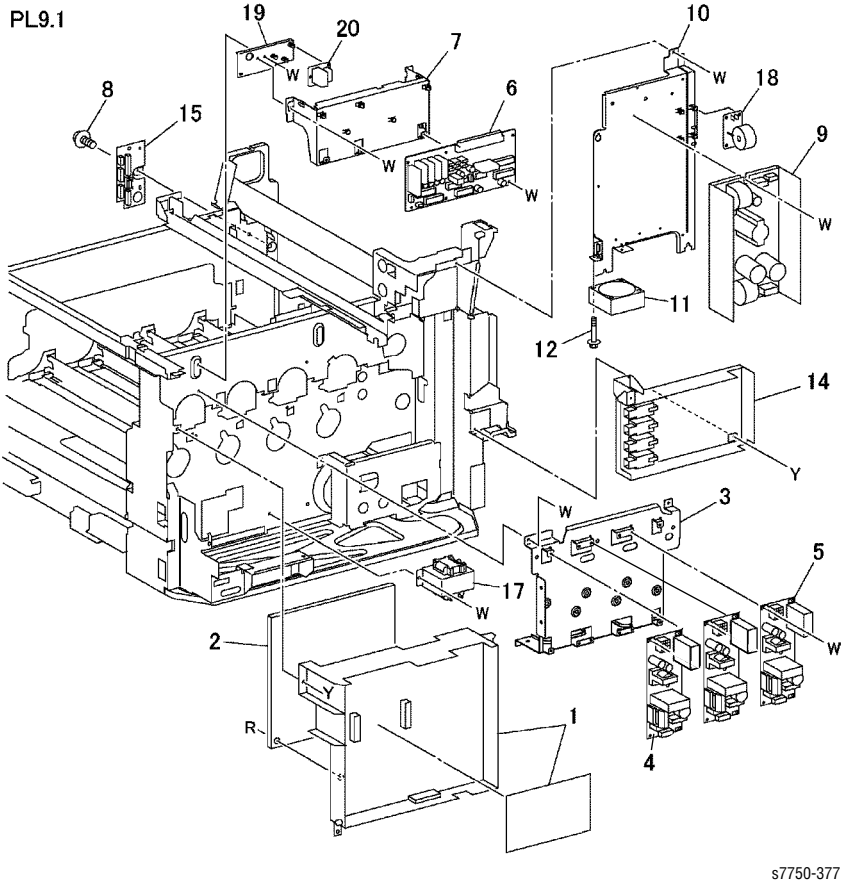


Air System PL 8.1

No	Part number	Qty	Part Description and (part name)
1	116-1788-00		Laser Shutter Motor
4	116-1789-00		LH Lower Inner Cover (COVER-INNER, L/H, LOW)
6	116-1176-00		Fuser Fan Assembly (FAN ASSY FUSER)
8	116-1790-00		Laser Fan (FAN ASSY (ROS))
9	116-1831-00		Developer Cooling Fan (Not Shown) Location: Inside Rear Cover
10	116-1833-00		Bottom Fan (Not Shown) Location: Underneath Power Supplies

No	Part number	Qty	Part Description and (part name)
11	116-1834-00		Bottom Fan Duct (Not Shown) Location: Underneath Power Supplies

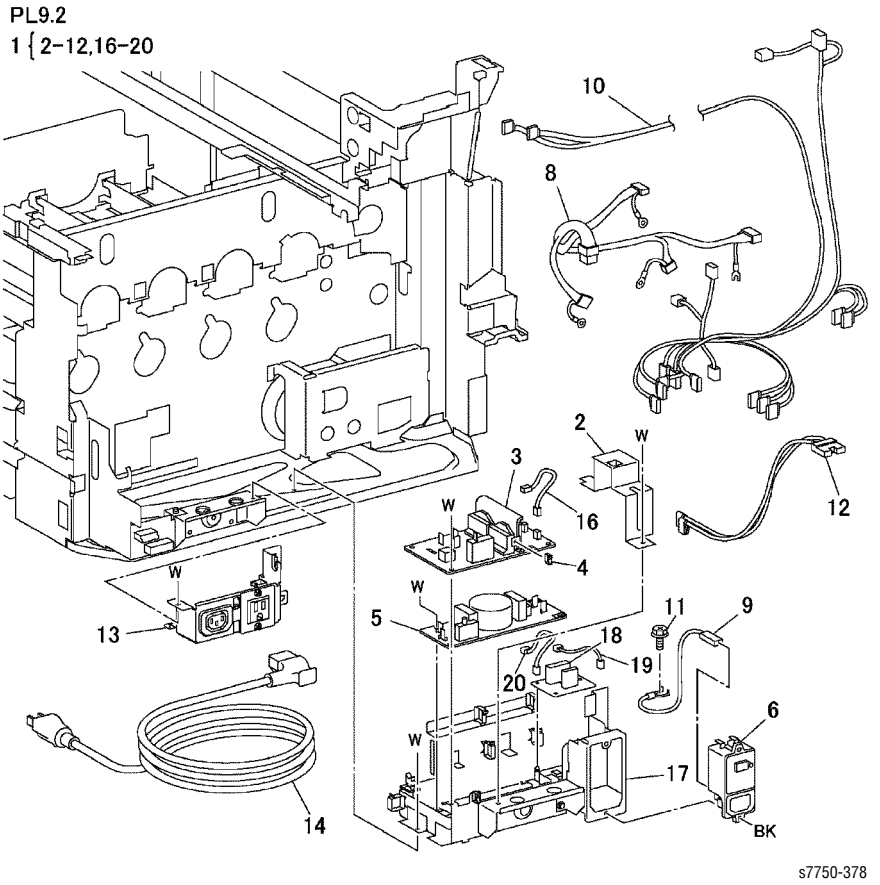
Part List 9.1 Electrical Components: 1 of 3



Electrical Components: 1 of 3 PL 9.1

No	Part number	Qty	Part Description and (part name)
1	116-1791-00		HVPS (T1)
2	116-1792-00		HVPS (T3)
4	116-1793-00 116-1150-00		3.3 LVPS (110V) 3.3 LVPS (220V)
5	116-1151-00 116-1152-00		5V LVPS (110V) 5V LVPS (220V)
6	116-1829-00		Interface Engine Control Board
9	116-1153-00 116-1154-00		24V LVPS (110V) 24V LVPS (220V)
11	116-1175-00		LVPS Fan
14	116-1794-00		HVPS (T2)

Part List 9.2 Electrical Components: 2 of 3

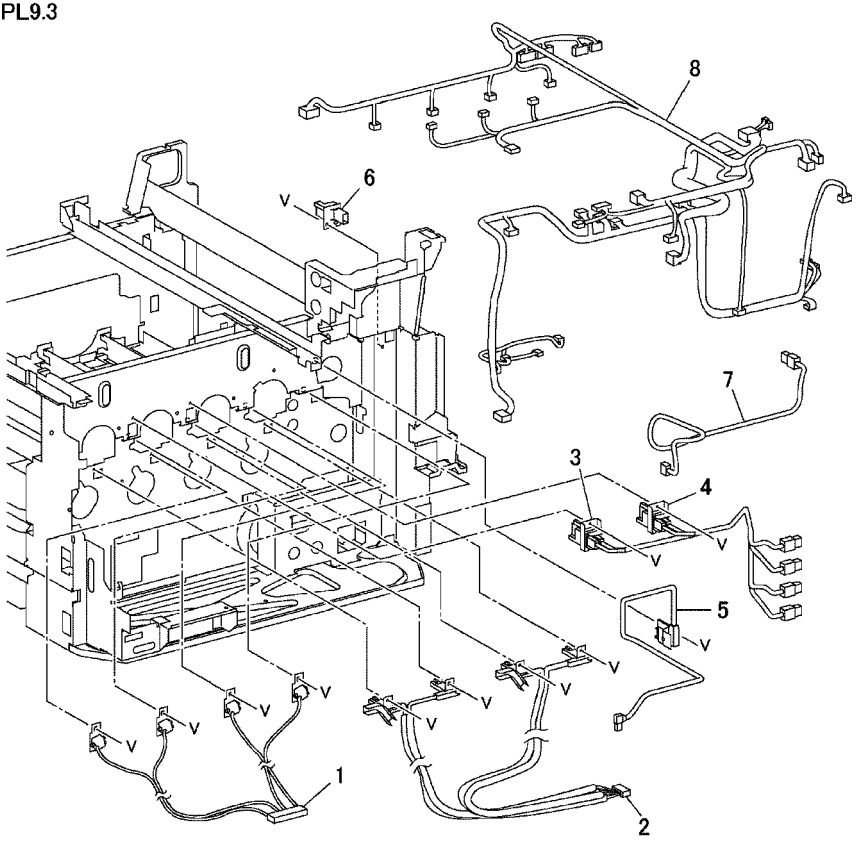


Electrical Components: 2 of 3 PL 9.2

No	Part number	Qty	Part Description and (part name)
1	116-1796-00 116-1797-00		AC Power Chassis Assembly (110V) AC Power Chassis Assembly (220V)
13	116-1801-00		Outlet Panel
14	116-1798-00		Power Cord

Part List 9.3 Electrical Components: 3 of 3

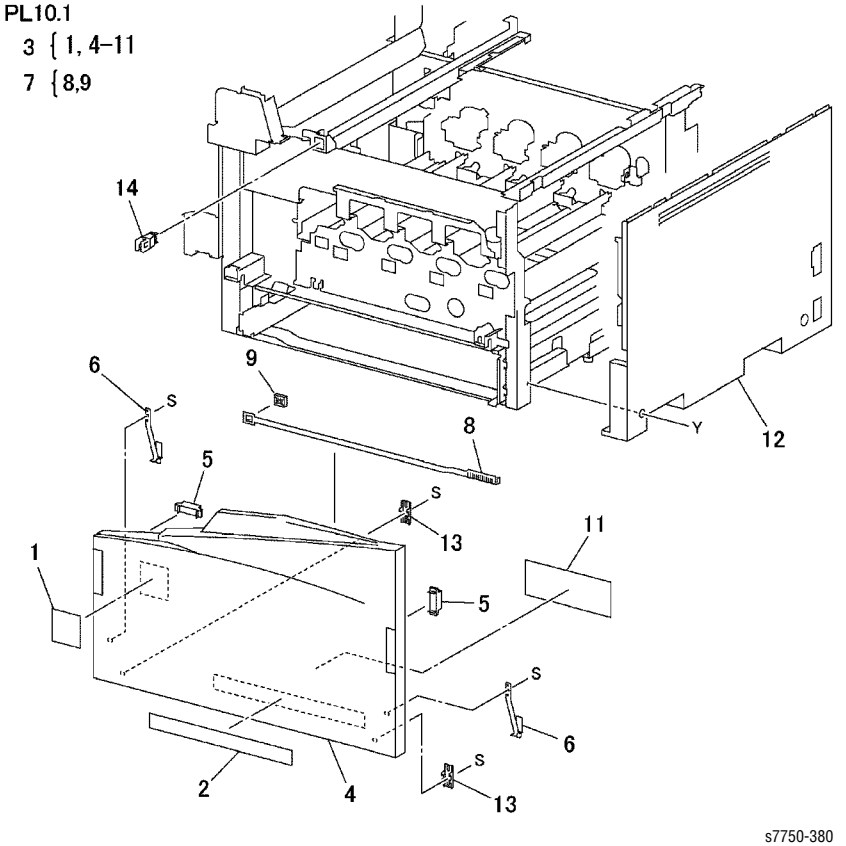
PL9.3



Electrical Components: 3 of 3 PL 9.3

No	Part number	Qty	Part Description and (part name)
1	116-1223-00		Developer Block
2	116-1312-00		Wire Harness
3	116-1307-00		Wire Harness Y, M
4	116-1308-00		Wire Harness C, K
5	116-1913-00		2nd Wire Harness
6	116-1306-00		DTS Connector
7	116-1310-00		DTS Wire Harness
8	116-1799-00		DC Wire Harness

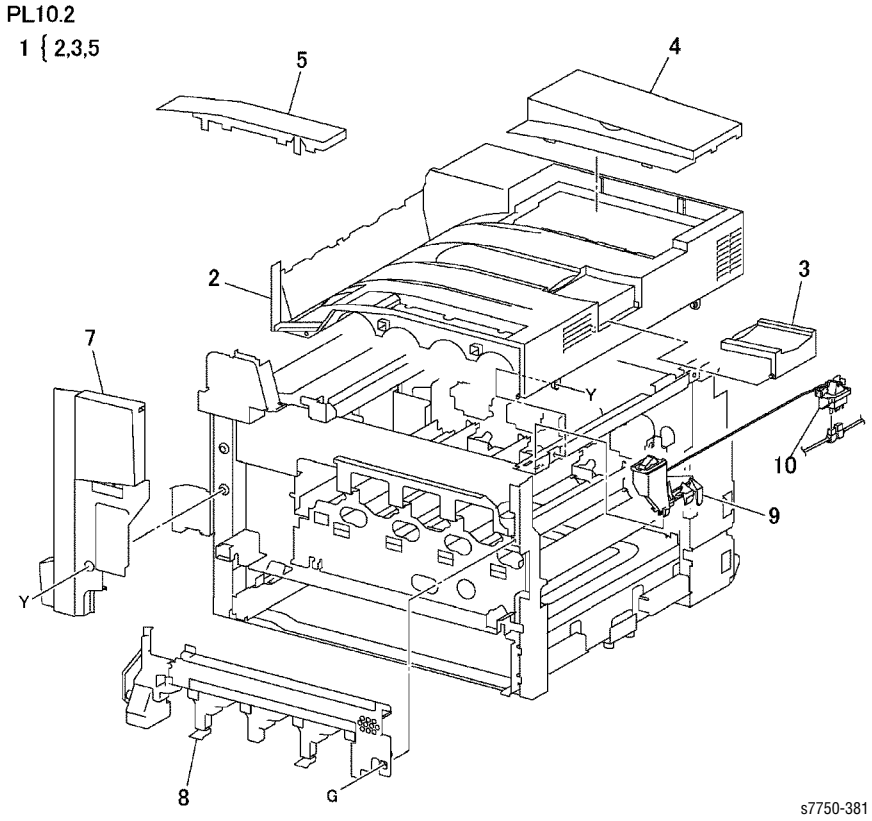
Part List 10.1 Front Cover



Front Cover PL 10.1

No	Part number	Qty	Part Description and (part name)
3	116-1800-00		Front Cover Assembly (COVER ASSY FRONT MN)
6	116-1187-00		Strap
7	116-1116-00		ROS Window Cleaning Wand (CLEANER ASSY)
9	116-1117-00		ROS Window Cleaning Wand Base (CLEANER ASSY BASE)
12	116-1095-00		Right Hand Cover (COVER ASSY RIGHT MN)

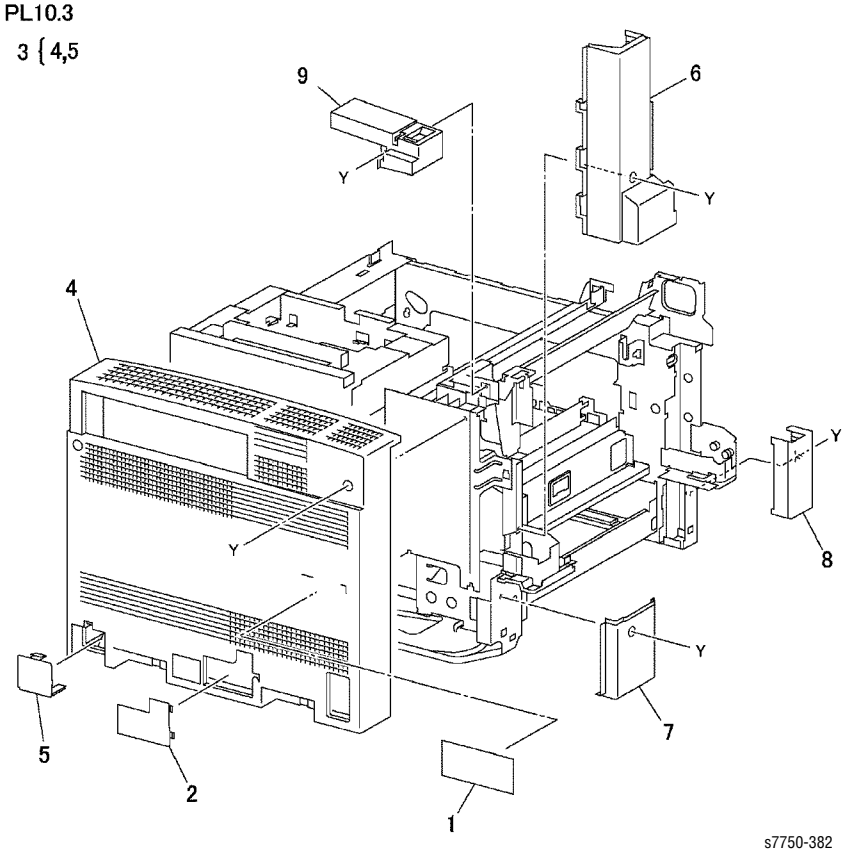
Part List 10.2 Top Cover and Front Panel



Top Cover and Front Panel PL 10.2

No	Part number	Qty	Part Description and (part name)
1	116-1802-00		Top Cover Assembly (TOP COVER)
5	116-1803-00		Front Panel (CONTROL PANEL)
7	116-1805-00		Front Fuser Cover (COVER AY-F FRONT MN)
9	116-1806-00		Link Assembly (LINK ASSEMBLY)
10	116-1807-00		On/Off Switch (MAIN POWER SWITCH
11	116-1804-00		Front Panel Wire Harness

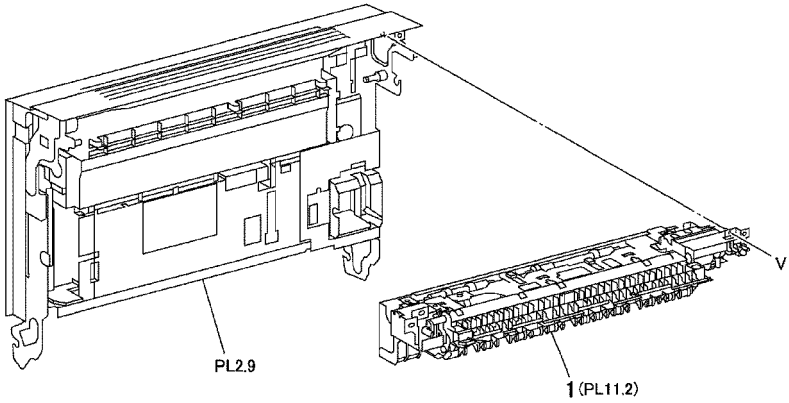
Part List 10.3 Rear Cover



Rear Cover PL 10.3

No	Part number	Qty	Part Description and (part name)
1			Data plate N/S
2			Blind Cover
3	116-1954-00		Rear Cover Assembly (COVER ASSY REAR)
4			Rear Cover {p/o item 3}
5	116-1188-00		Lower Tray Unit Harness Cover (COVER BLIND TM)
6	116-1189-00		Left Hand Rear Middle Cover (COVER-L/H R,MID)
7	116-1191-00		Left Hand Rear Lower Cover (COVER-L/H R,LOW)
8	116-1914-00		Left Hand Front Lower Cover (COVER AY-L/H F, LOW MN)
9	116-1808-00		Top Rear Cover (COVER-TOP, REAR)

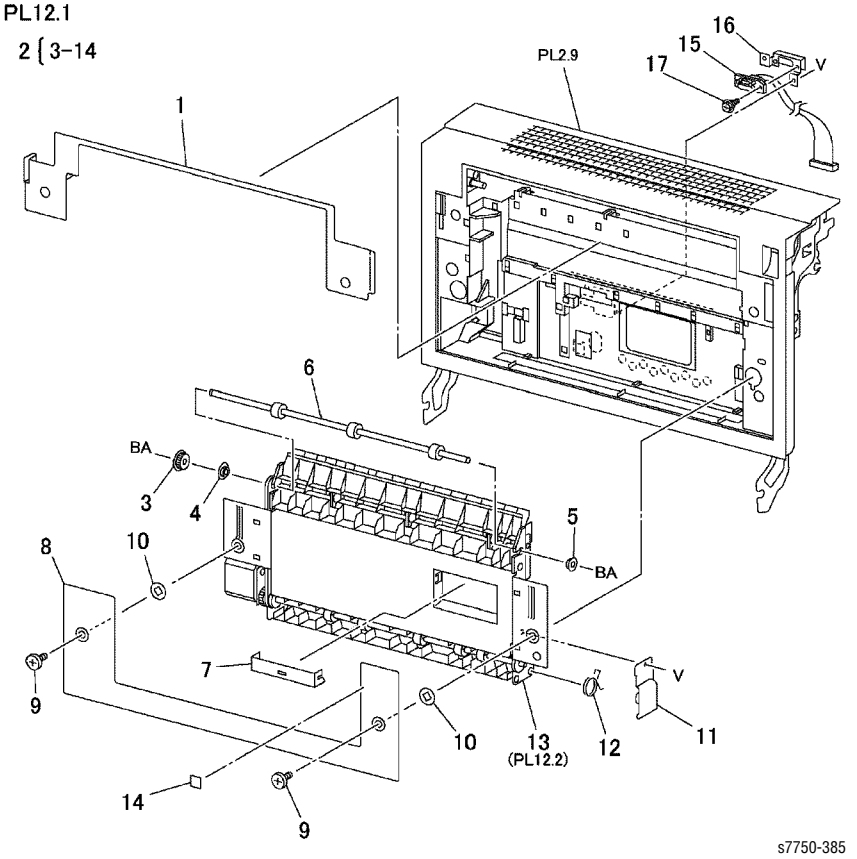
Part List 11.1 Inverter Transport



Inverter Transport PL 11.1

No	Part number	Qty	Part Description and (part name)
1	116-1809-00		Inverter Transport Assembly (TRANSPORT ASSY-INV)

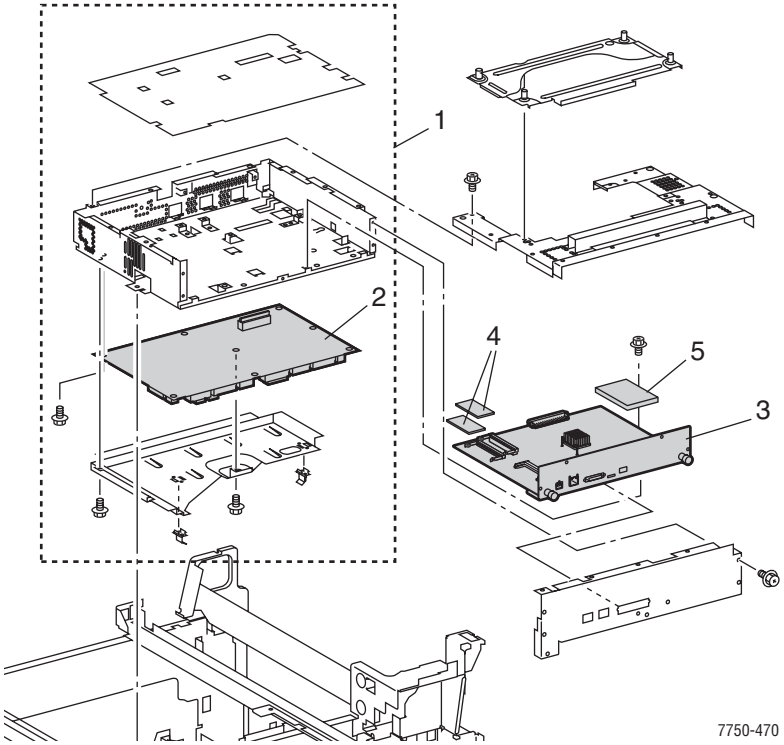
Part List 12.1 Duplex Unit Assembly



Duplex Unit Assembly PL 12.1

No	Part number	Qty	Part Description and (part name)
2	116-1810-00		Duplex Transport Assembly (TRANSPORT ASSY DUP)

Part List 13.1 Image Processor and Engine Control Boards

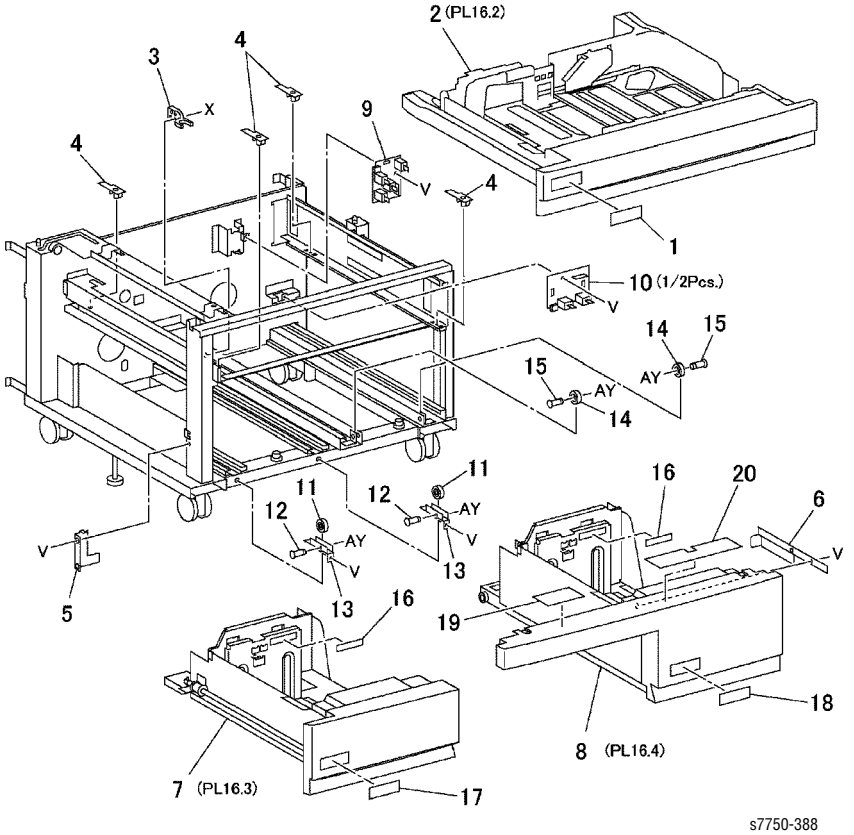


Boards PL 13.1

No	Part number	Qty	Part Description and (part name)
1	116-1812-00		Chassis Assembly (w/o Engine Board)
2	116-1811-00		Engine Control Board (PWB MCU)
3	650-4306-00 671-5316-80		Image Processor Board
4	156-4837-00 156-4663-00 156-4857-00		128 MB RAM SODIMM 256 MB RAM SODIMM 512 MB RAM SODIMM
5	650-4311-00		Internal Hard Drive
6	116-1836-00		Not Shown - Electrical Chassis Cooling Fan
7	163-1506-00 163-1507-00		Cofiguration Chip Base Configuration Chip Network

Part List 16.1 Lower Trays 3/4/5 Assembly

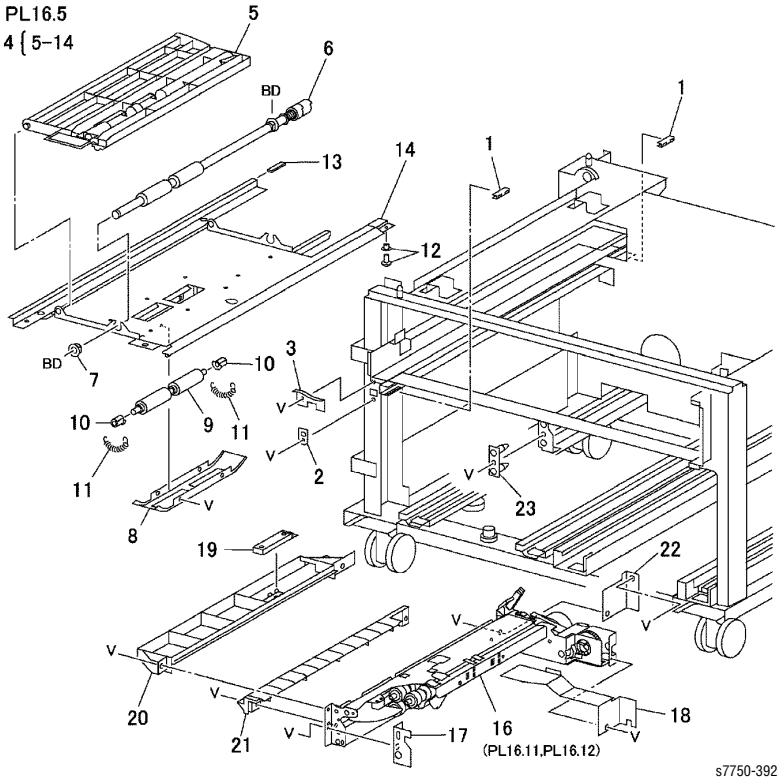
PL16.1



Lower Trays 3/4/5 Assembly PL 16.1

No	Part number	Qty	Part Description and (part name)
2	119-6504-00		Tray 3
7	116-1090-00		Tray 4
8	116-1089-00		Tray 5
9	116-1126-00		Tray 3 Paper Size Switch
10	116-1127-00		Tray 4/5 Paper Size Switch

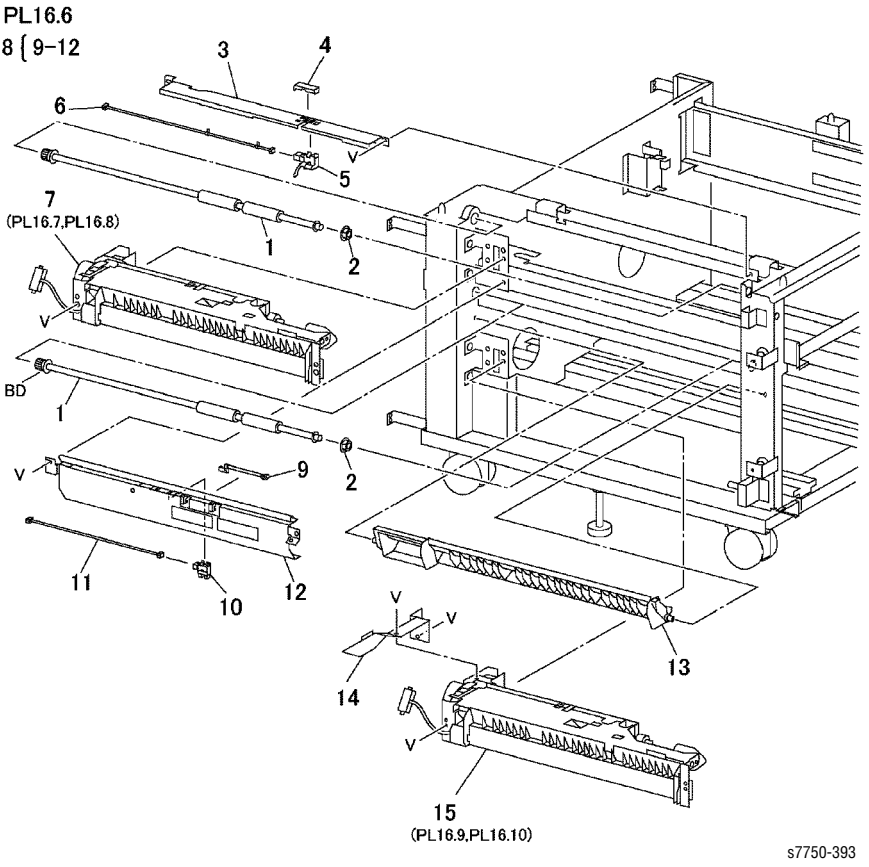
Part List 16.5 Lower Trays Paper Feeder: 1 of 2



Lower Trays Paper Feeder: 1 of 2 PL 16.5

No	Part number	Qty	Part Description and (part name)
4	116-1838-00		Tray 5 Transport Assembly
16	116-1816-00		Tray 5 Feeder
19	116-1218-00		Tray 5 Feed out Sensor
20	116-1169-00		Upper Chute
21	116-1168-00		Lower Chute

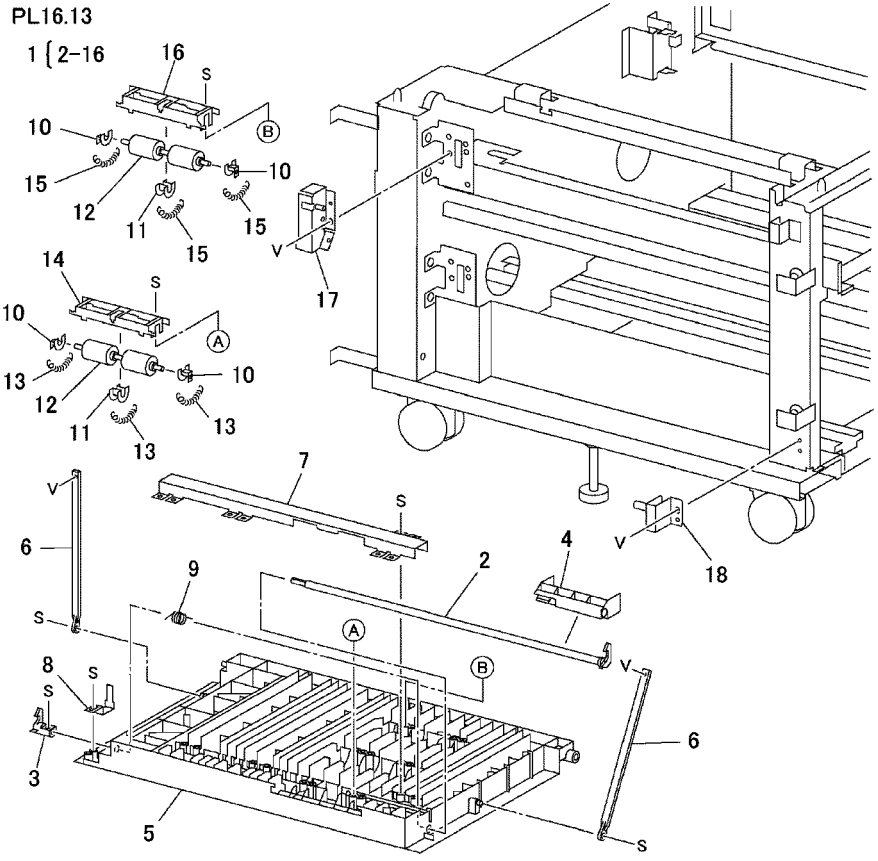
Part List 16.6 Lower Trays Paper Feeder: 2 of 2



Lower Trays Paper Feeder: 2 of 2 PL 16.6

No	Part number	Qty	Part Description and (part name)
1	116-1815-00		Takeaway Roller
8	116-1173-00		Chute Assembly
12			Chute
13	116-1167-00		Lower Chute

Part List 16.13 Left Cover Assembly (LTD)



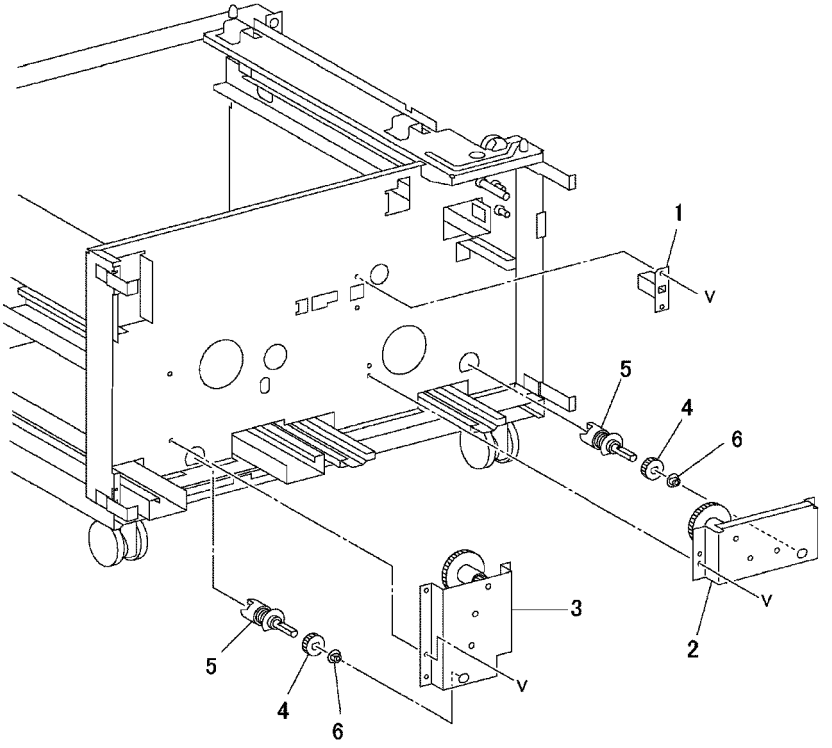
s7750-400

Left Cover Assembly (LTA) PL 16.13

No	Part number	Qty	Part Description and (part name)
1	116-1185-00		Left Cover Assembly

Part List 16.14 Tray 4/5 Lift Gear Assembly

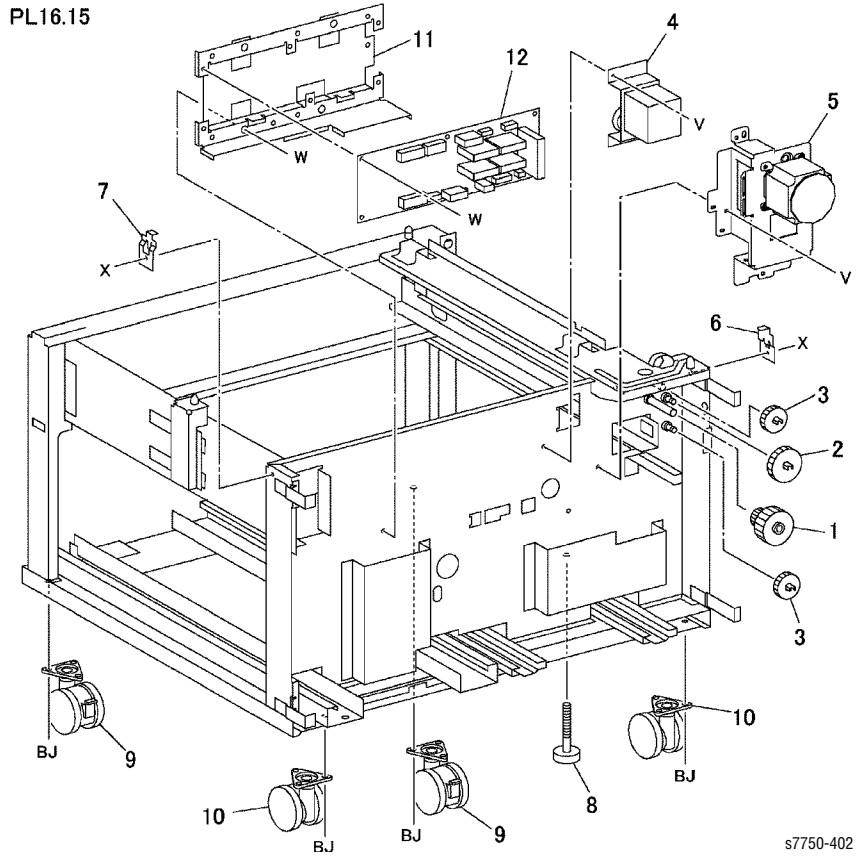
PL16.14



Left Cover Assembly (LTA) PL 16.14

No	Part number	Qty	Part Description and (part name)
2	116-1171-00		Gear Assembly Tray 4
3	116-1170-00		Gear Assembly Tray 5

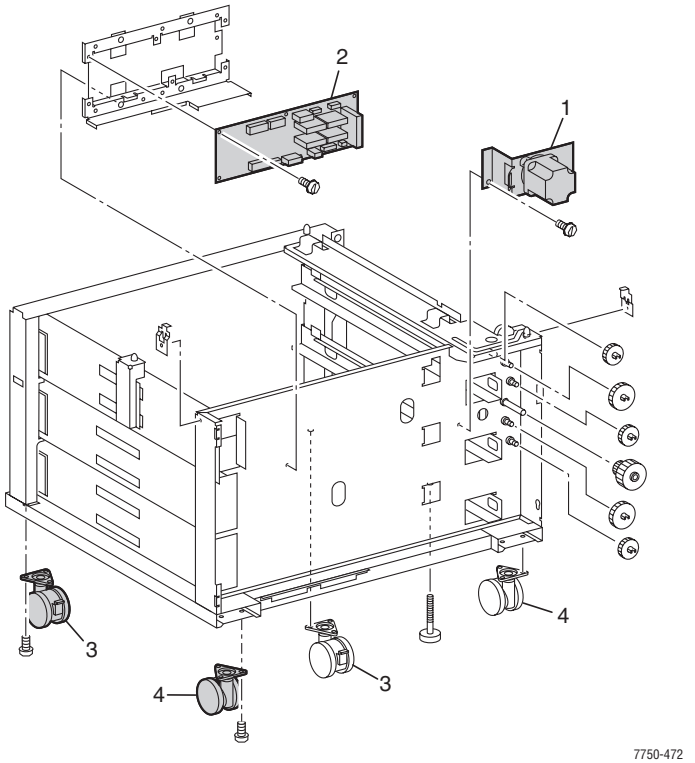
Part List 16.15 Electrical Components and Caster



Electrical Components LTA PL 16.15

No	Part number	Qty	Part Description and (part name)
4	116-1099-00		Takeaway Motor 2
5	116-1814-00		Takeaway Motor 1
12	116-1818-00		Tray Module Control Board

Part List 16.16 Lower Tray Deck



Lower Tray Deck PL 16.16

No	Part number	Qty	Part Description and (part name)
1	116-1814-00		Tray 3 Module Motor Assembly (MOTOR ASSY-3TM
2	116-1813-00		LTD Circuit (control) Board (TRAY MODULE PWB)
3	116-1206-00		Caster, Locking (CASTER ASSY-S)
4	116-1221-00		Caster (CASTER ASSY)
5			Paper Select Switch
6	116-1184-00		LTD Module Cover (COVER ASSY LH 3TM) NOT SHOWN

Hardware Kits

Parts	Part number	Qty	Name and description (vendor description)
	116-1912-00		Sensor Kit
	116-1210-00		Sensor Flag Kit
	116-1211-00		Roller Kit
	116-1820-00		Tray 1/MPT Roller Kit
	116-1300-00		Hardware Kit
	065-0630-00	1	Complete Repackaging kit
	065-0629-00	1	Internal repackaging kit

Recommended Service Tools

The following service are recommended as a start for servicing the printer. As additional tools are needed visit the following URL for help: **http://cpid.office.xerox.com/hardwaretools.html**.

Part Number	Description
003-0293-00	Driver, Magnetic 0.25” drive (no bits), 8” shank
003-0335-00	Tip, #1 Philips Bit, 0.25” drive
003-0336-00	Tip, #2 Philips Bit, 0.25” drive
640600 Mag 27020	Tip, 2.5 mm Hex Bit, 0.25” drive
600T02123	Hex Nutdriver, 5.5 mm (magnetic)

Wiring Diagrams

In this chapter...

- Plug/Jack Locations Table
- Plug/Jack Locator Maps
- Wiring Diagrams
- Wiring Schematics

Chapter 10

Plug/Jack Locations

Plug/ Jack No.	Map Number	Item No.	Title
2	Map 12	8	HVPS T1, T3, +24V LVPS
15A	Map 16	19	I/F PWB, MAIN Motor, LVPS T2
16	Map 16	16	I/F PWB, MAIN Motor, LVPS T2
42	Map 18	10	AC Drive PWB, Noise Filter PWB, Delay PWB
43	Map 18	11	AC Drive PWB, Noise Filter PWB, Delay PWB
46	Map 18	1	AC Drive PWB, Noise Filter PWB, Delay PWB
J70	Map 18	12	AC Drive PWB, Noise Filter PWB, Delay PWB
72	Map 12	9	HVPS T1, T2, +24V LVPS
102	Map 3	1	Inverter Transport Assembly
103	Map 8	4	MSI Unit
104	Map 7	3	Exit Transport Assembly
106	Map 19	3	Left Lower Assembly, Tray 2 Feeder
108	Map 19	2	Left Lower Assembly, Tray 2 Feeder
109	Map 5	4	Registration Transport Assembly
111	Map 3	14	Inverter Transport Assembly
113	Map 3	8	Inverter Transport Assembly
115	Map 17	10	Developer Motor, Tray 2 Size Switch
116	Map 2	3	MOB Sensor Assembly
117	Map 2	1	MOB Sensor Assembly
119	Map 11	5	IBT Belt Assembly
121	Map 11	4	IBT Belt Assembly
122	Map 11	2	IBT Belt Assembly
125	Map 19	7	Left Lower Assembly, Tray 2 Feeder
129	Map 1	10	Xerographic
130	Map 1	9	Xerographic
131	Map 1	7	Xerographic
132	Map 1	5	Xerographic
133	Map 1	16	Xerographic
135	Map 4	5	Duplex Transport Assembly
136	Map 4	6	Duplex Transport Assembly

Plug/ Jack No.	Map Number	Item No.	Title
140	Map 3	12	Inverter Transport Assembly
144	Map 2	2	MOB Sensor Assembly
150	Map 19	4	Left Lower Assembly, Tray 2 Feeder
151	Map 1	12	Xerographic
152	Map 1	15	Xerographic
153	Map 1	19	Xerographic
154	Map 1	17	Xerographic
155	Map 5	3	Registration Transport Assembly
163	Map 9	11	Toner Dispense Motor, Main Switch
165	Map 9	8	Toner Dispense Motor, Main Switch
171	Map 1	4	Xerographic
172	Map 7	2	Exit Transport Assembly
203	Map 16	10	I/F PWB, MAIN Motor, LVPS T2
205	Map 19	1	Left Lower Assembly, Tray 2 Feeder
207	Map 1	11	Xerographic
208	Map 16	24	I/F PWB, MAIN Motor, LVPS T2
210	Map 16	22	I/F PWB, MAIN Motor, LVPS T2
211	Map 6	8	Fuser Assembly
212	Map 6	11	Fuser Assembly
214	Map 12	11	HVPS T1, T3, +24V LVPS
215	Map 3	5	Inverter Transport Assembly
216	Map 3	15	Inverter Transport Assembly
217	Map 3	4	Inverter Transport Assembly
218	Map 3	2	Inverter Transport Assembly
219	Map 3	3	Inverter Transport Assembly
220	Map 7	4	Exit Transport Assembly
221	Map 17	7	Developer Motor, Tray 2 Size Switch
222	Map 7	1	Exit Transport Assembly
223	Map 1	8	Xerographic
224	Map 1	6	Xerographic
225	Map 1	3	Xerographic
226	Map 1	20	Xerographic

Plug/ Jack No.	Map Number	Item No.	Title
227	Map 9	17	Toner Dispense Motor, Main Switch
228	Map 9	12	Toner Dispense Motor, Main Switch
229	Map 9	10	Toner Dispense Motor, Main Switch
230	Map 9	9	Toner Dispense Motor, Main Switch
231	Map 5	5	Registration Transport Assembly
232	Map 17	9	Developer Motor, Tray 2 Size Switch
233	Map 1	2	Xerographic
234	Map 17	1	Developer Motor, Tray 2 Size Switch
235	Map 17	2	Developer Motor, Tray 2 Size Switch
237	Map 11	3	IBT Accumulator Belt Assembly
240	Map 5	2	Registration Transport Assembly
251	Map 3	6	Inverter Transport Assembly
255	Map 2	4	MOB Sensor Assembly
260	Map 6	5	Fuser Assembly
261	Map 6	6	Fuser Assembly
262	Map 6	3	Fuser Assembly
263	Map 6	4	Fuser Assembly
264	Map 6	9	Fuser Assembly
265	Map 8	2	Tray 5
288	Map 9	18	Toner Dispense Motor, Main Switch
400	Map 15	8	MCU-MF PWB
40	Map 15	11	MCU-MF PWB
40	Map 15	12	MCU-MF PWB
40	Map 15	2	MCU-MF PWB
40	Map 15	4	MCU-MF PWB
40	Map 15	5	MCU-MF PWB
40	Map 15	6	MCU-MF PWB
407	Map 15	3	MCU-MF PWB
J410	Map 15	10	MCU-MF PWB
P410	Map 16	4	I/F PWB, MAIN Motor, LVPS T2
P460	Map 15	1	MCU-MF PWB
J496	Map 15	9	MCU-MF PWB

Plug/ Jack No.	Map Number	Item No.	Title
498	Map 15	7	MCU-MF PWB
501	Map 12	19	HVPS T1, T3, +24V LVPS
502	Map 12	6	HVPS T1, T3, +24V LVPS
505	Map 12	7	HVPS T1, T3, +24V LVPS
510	Map 16	23	I/F PWB, MAIN Motor, LVPS T2
510B	Map 16	18	I/F PWB, MAIN Motor, LVPS T2
511	Map 16	15	I/F PWB, MAIN Motor, LVPS T2
514	Map 10	3	ROS Assembly
515	Map 10	2	ROS Assembly
516	Map 10	7	ROS Assembly
517	Map 10	8	ROS Assembly
518	Map 10	9	ROS Assembly
526	Map 10	5	ROS Assembly
527	Map 10	1	ROS Assembly
528	Map 10	6	ROS Assembly
529	Map 10	4	ROS Assembly
530	Map 16	13	I/F PWB, MAIN Motor, LVPS T2
531	Map 16	7	I/F PWB, MAIN Motor, LVPS T2
532	Map 16	14	I/F PWB, MAIN Motor, LVPS T2
533	Map 16	1	I/F PWB, MAIN Motor, LVPS T2
534	Map 16	9	I/F PWB, MAIN Motor, LVPS T2
535	Map 16	20	I/F PWB, MAIN Motor, LVPS T2
536	Map 16	8	I/F PWB, MAIN Motor, LVPS T2
538	Map 4	1	Duplex Transport Assembly
539	Map 4	3	Duplex Transport Assembly
540	Map 4	4	Duplex Transport Assembly
541	Map 23	14	TT Module (rear)
546	Map 23	1	TT Module (rear)
547	Map 23	4	TT Module (rear)
548	Map 23	15	TT Module (rear)
549	Map 23	13	TT Module (rear)
551	Map 16	25	I/F PWB, MAIN Motor, LVPS T2

Plug/ Jack No.	Map Number	Item No.	Title
552	Map 16	26	I/F PWB, MAIN Motor, LVPS T2
552	Map 23	6	TT Module (rear)
553	Map 16	17	I/F PWB, MAIN Motor, LVPS T2
553	Map 23	10	TT Module (rear)
554	Map 23	11	TT Module (rear)
555	Map 23	5	TT Module (rear)
557	Map 23	2	TT Module (rear)
561	Map 23	12	TT Module (rear)
564	Map 23	3	TT Module (rear)
568	Map 16	2	I/F PWB, MAIN Motor, LVPS T2
569	Map 16	27	I/F PWB, MAIN Motor, LVPS T2
570	Map 12	4	HVPS T1, T3, +24V LVPS
57	Map 12	17	HVPS T1, T3, +24V LVPS
57	Map 12	3	HVPS T1, T3, +24V LVPS
57	Map 12	1	HVPS T1, T3, +24V LVPS
57	Map 12	18	HVPS T1, T3, +24V LVPS
57	Map 16	12	I/F PWB, MAIN Motor, LVPS T2
57	Map 16	11	I/F PWB, MAIN Motor, LVPS T2
580	Map 12	14	HVPS T1, T3, +24V LVPS
581	Map 12	2	HVPS T1, T3, +24V LVPS
590	Map 18	5	AC Drive PWB, Noise Filter PWB, Delay PWB
592	Map 18	6	AC Drive PWB, Noise Filter PWB, Delay PWB
593	Map 18	14	AC Drive PWB, Noise Filter PWB, Delay PWB
J600	Map 5	1	Registration Transport Assembly
P600	Map 6	10	Fuser Assembly
602	Map 1	24	Xerographic
605	Map 11	1	IBT Accumulator Belt Assembly
608	Map 1	25	Xerographic
J610	Map 8	1	MSI Unit
P610	Map 17	3	Developer Motor, Tray 2 Size Switch
611	Map 7	5	Exit Transport Assembly
J612	Map 3	9	Inverter Transport Assembly

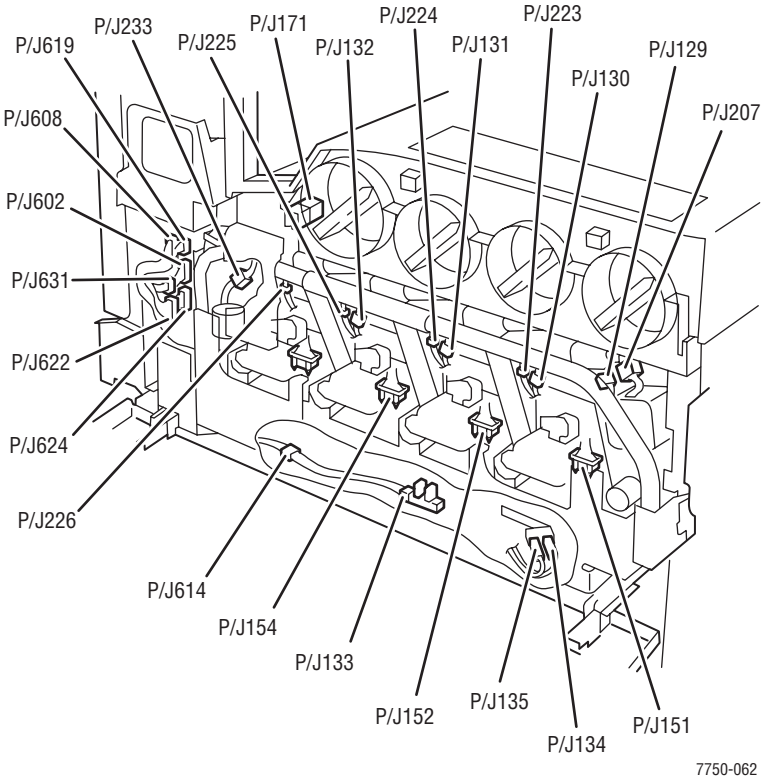
Plug/ Jack No.	Map Number	Item No.	Title
P612	Map 17	3	Developer Motor, Tray 2 Size Switch
J613	Map 3	10	Inverter Transport Assembly
P613	Map 17	5	Developer Motor, Tray 2 Size Switch
614	Map 1	18	Xerographic
617	Map 19	6	Left Lower Assembly, Tray 2 Feeder
619	Map 1	1	Xerographic
620	Map 5	6	Registration Transport Assembly
622	Map 1	22	Xerographic
623	Map 19	5	Left Lower Assembly, Tray 2 Feeder
624	Map 1	21	Xerographic
P626	Map 3	13	Inverter Transport Assembly
J626	Map 4	2	Duplex Transport Assembly
631	Map 1	23	Xerographic
J633	Map 3	3	Inverter Transport Assembly
P633	Map 3	7	Inverter Transport Assembly
639	Map 16	5	I/F PWB, MAIN Motor, LVPS T2
J640	Map 3	11	Inverter Transport Assembly
P640	Map 17	6	Developer Motor, Tray 2 Size Switch
641	Map 16	6	I/F PWB, MAIN Motor, LVPS T2
646	Map 17	8	Developer Motor, Tray 2 Size Switch
668	Map 12	15	HVPS T1, T3, +24V LVPS
669	Map 12	16	HVPS T1, T3, +24V LVPS
670	Map 20	9	TT Module (Tray 3,4 feeder)
672	Map 20	7	TT Module (Tray 3,4 feeder)
674	Map 23	9	TT Module (rear)
J800	Map 31	8	Finisher (rear) (1 0f 2)
P800	Map 16	21	I/F PWB, MAIN Motor, LVPS T2
801	Map 12	5	HVPS T1, T3, +24V LVPS
814	Map 20	5	TT Module (Tray 3,4 feeder)
815	Map 20	4	TT Module (Tray 3,4 feeder)
816	Map 22	5	TT Module (Tray 3,4,5, Paper Size Switch)
818	Map 20	5	TT Module (Tray 3,4 feeder)

Plug/ Jack No.	Map Number	Item No.	Title
819	Map 20	4	TT Module (Tray 3,4 feeder)
820	Map 22	3	TT Module (Tray 3,4,5 Paper Size Switch)
821	Map 20	6	TT Module (Tray 3,4 feeder)
822	Map 21	1	TT Module (Tray 3,4 feeder)
823	Map 21	2	TT Module (Tray 3,4 feeder)
824	Map 22	3	TT Module (Tray 3,4,5 Paper Size Switch)
825	Map 21	3	TT Module (Tray 3,4 feeder)
826	Map 23	7	TT Module (rear)
827	Map 20	3	TT Module (Tray 2,3 feeder)
828	Map 20	3	TT Module (Tray 2,3 feeder)
829	Map 21	4	TT Module (Tray 2,3 feeder)
841	Map 20	8	TT Module (Tray 2,3 feeder)
842	Map 23	8	TT Module (rear)
J903	Map 12	13	HVPS T1, T3, +24V LVPS
J925	Map 12	12	HVPS T1, T3, +24V LVPS
FS37	Map 6	2	Fuser Assembly
FS38	Map 6	1	Fuser Assembly
FS39	Map 18	3	AC Drive PWB, Noise Filter PWB, Delay PWB
FS40	Map 18	2	AC Drive PWB, Noise Filter PWB, Delay PWB
FS41	Map 18	4	AC Drive PWB, Noise Filter PWB, Delay PWB
FS45	Map 18	9	AC Drive PWB, Noise Filter PWB, Delay PWB
FS47	Map 18	7	AC Drive PWB, Noise Filter PWB, Delay PWB
FS48	Map 18	8	AC Drive PWB, Noise Filter PWB, Delay PWB
FS51	Map 12	10	HVPS T1, T3, +24V LVPS
FS56	Map 9	14	Toner Dispense Motor (Y,M,C,K), Main Switch
FS57	Map 9	13	Toner Dispense Motor (Y,M,C,K), Main Switch
FS61	Map 18	16	AC Drive PWB, Noise Filter PWB, Delay PWB
FS62	Map 18	15	AC Drive PWB, Noise Filter PWB, Delay PWB
FS68	Map 9	15	Toner Dispense Motor (Y,M,C,K), Main Switch
FS69	Map 9	16	Toner Dispense Motor (Y,M,C,K), Main Switch
FS76	Map 18	13	AC Drive PWB, Noise Filter PWB, Delay PWB
FS77	Map 18	17	AC Drive PWB, Noise Filter PWB, Delay PWB

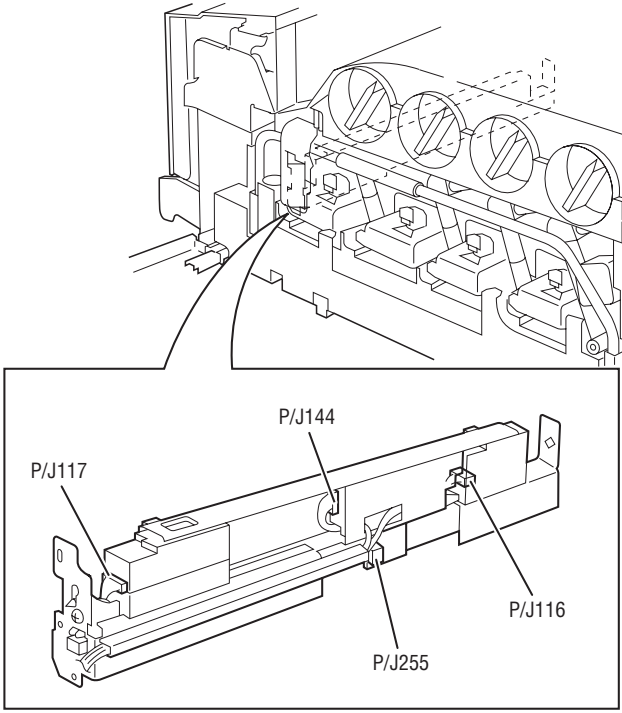
Plug/ Jack No.	Map Number	Item No.	Title
FS90	Map 18	18	AC Drive PWB, Noise Filter PWB, Delay PWB
FS134	Map 1	13	Xerographic
FS135	Map 1	14	Xerographic
FS180	Map 9	19	Toner Dispense Motor (Y,M,C,K), Main Switch
FS181	Map 9	1	Toner Dispense Motor (Y,M,C,K), Main Switch
FS182	Map 9	2	Toner Dispense Motor (Y,M,C,K), Main Switch
FS183	Map 9	3	Toner Dispense Motor (Y,M,C,K), Main Switch
FS184	Map 9	4	Toner Dispense Motor (Y,M,C,K), Main Switch
FS185	Map 9	5	Toner Dispense Motor (Y,M,C,K), Main Switch
FS186	Map 9	6	Toner Dispense Motor (Y,M,C,K), Main Switch
FS187	Map 9	7	Toner Dispense Motor (Y,M,C,K), Main Switch
FS812	Map 20	1	TT Module (Tray 3,4 feeder)
FS813	Map 20	2	TT Module (Tray 3,4 feeder)

Plug/Jack Locator Maps

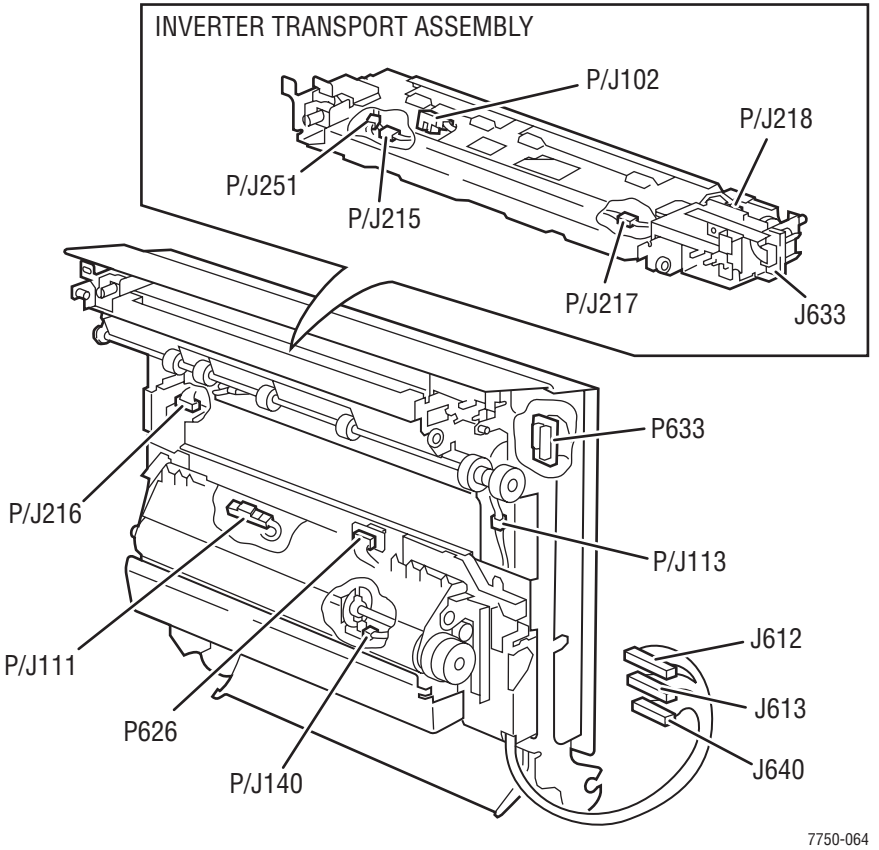
Map 1 -



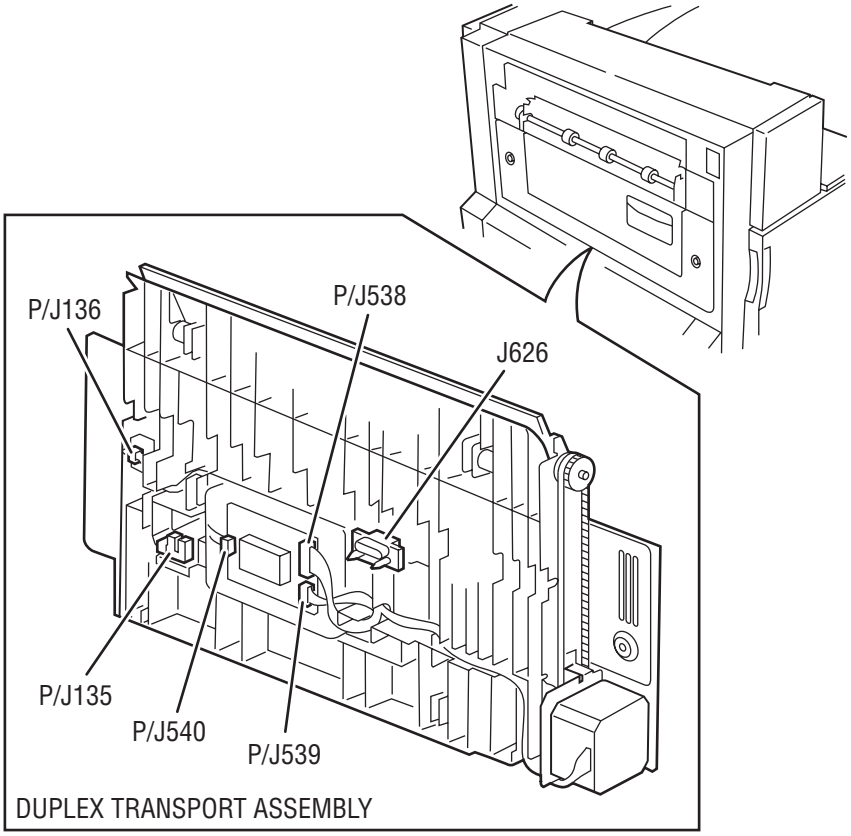
Map 2 - MOB Sensor Assembly



Map 3- Inverter Transport

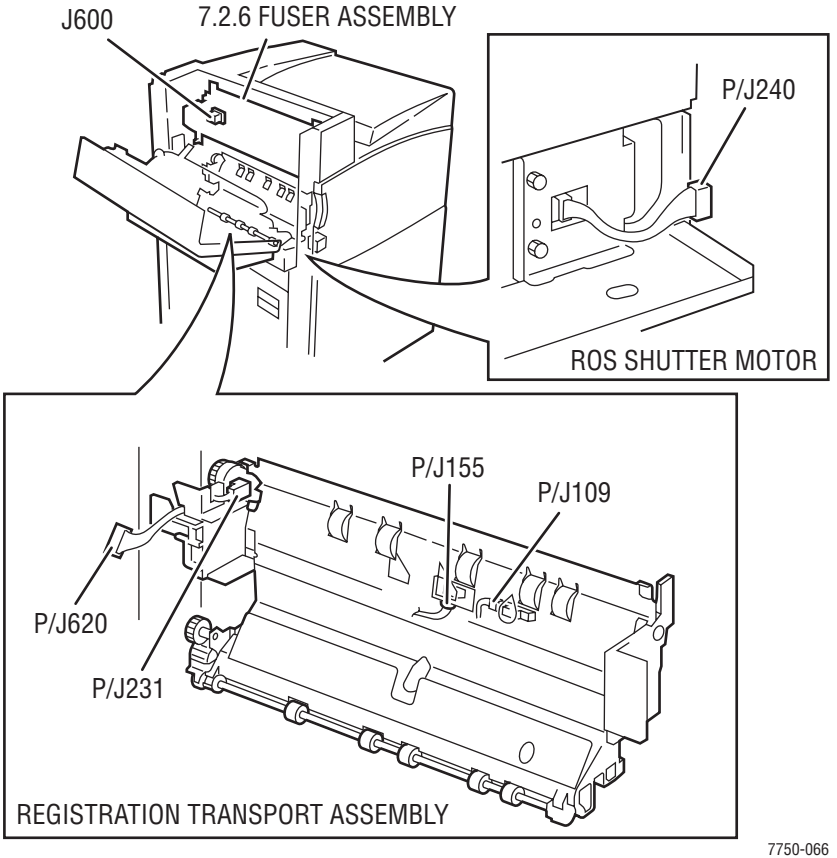


Map 4 - Duplex Transport

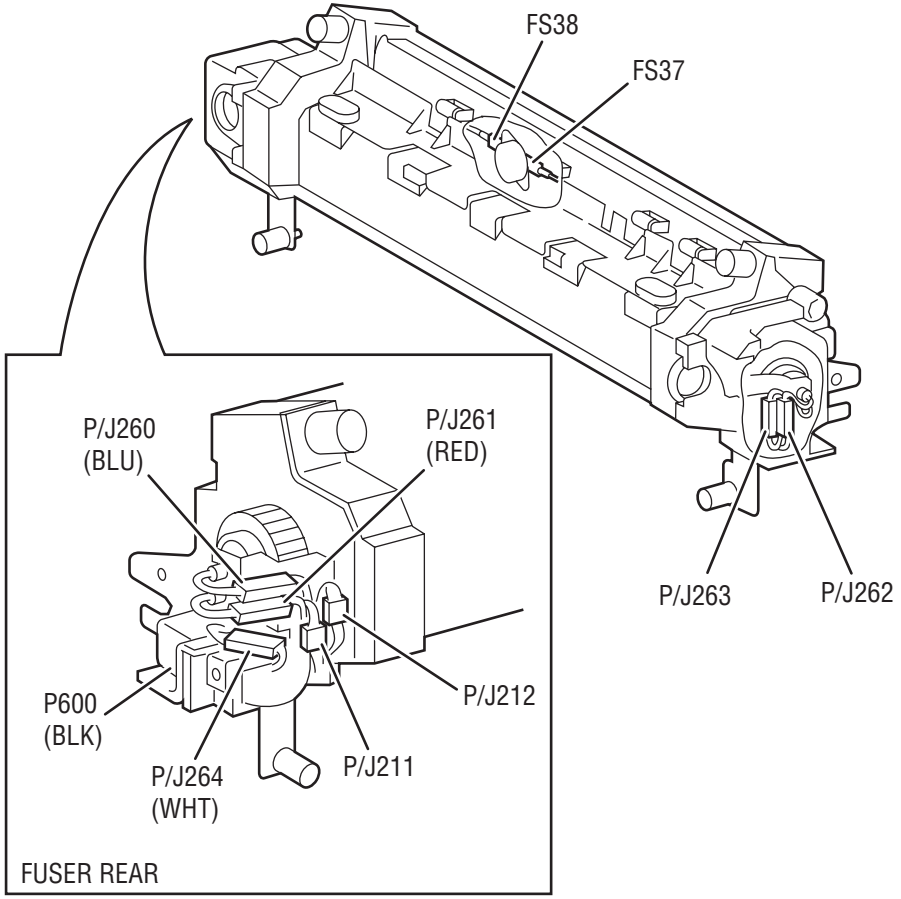


7750-065

Map 5 - Fuser

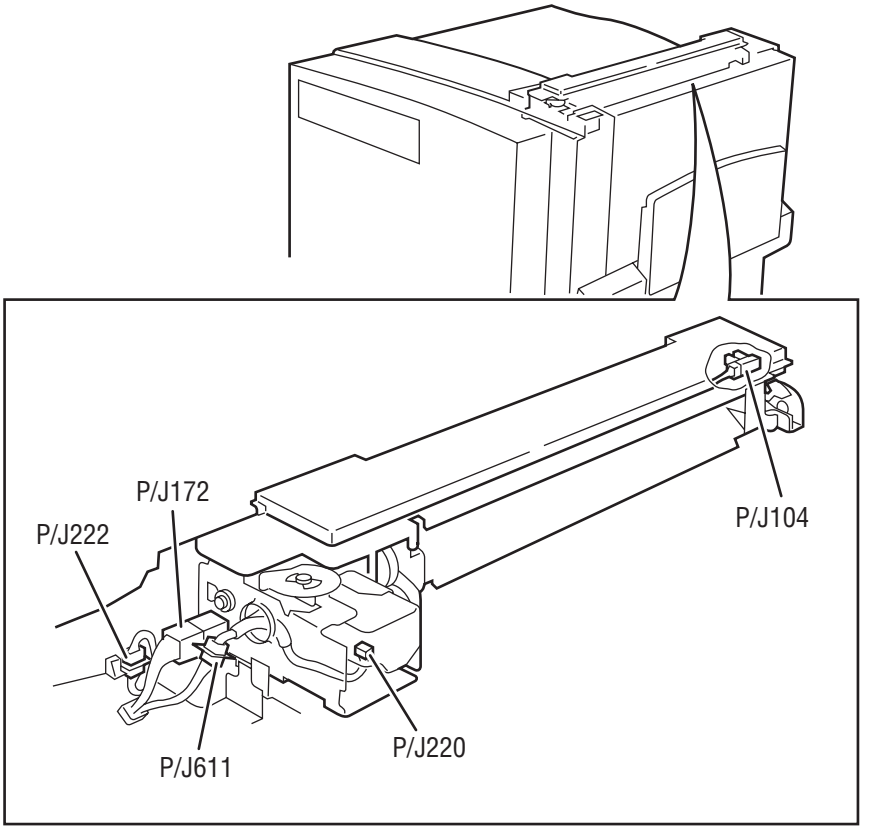

J600
7.2.6 FUSER ASSEMBLY
P/J240
ROS SHUTTER MOTOR
P/J155
P/J109
P/J620
P/J231
REGISTRATION TRANSPORT ASSEMBLY
7750-066

Map 6 - Fuser

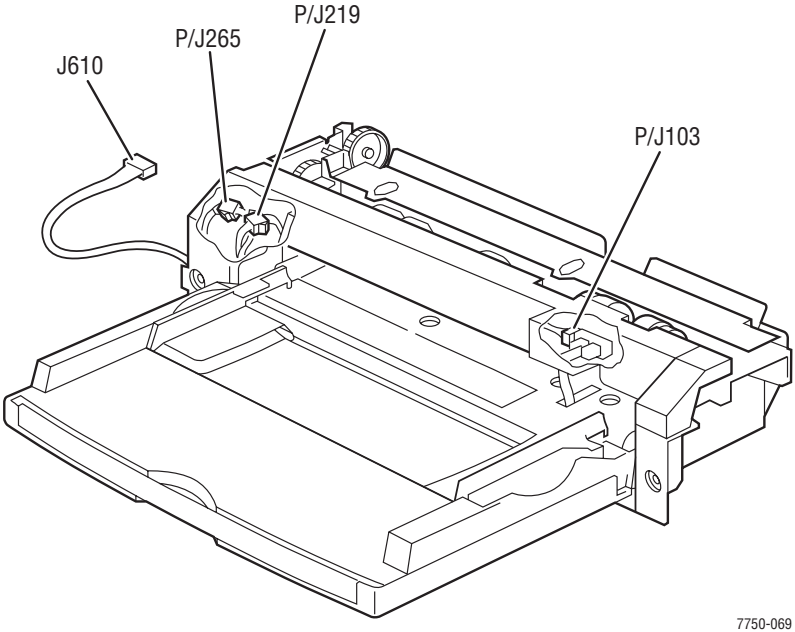


7750-067

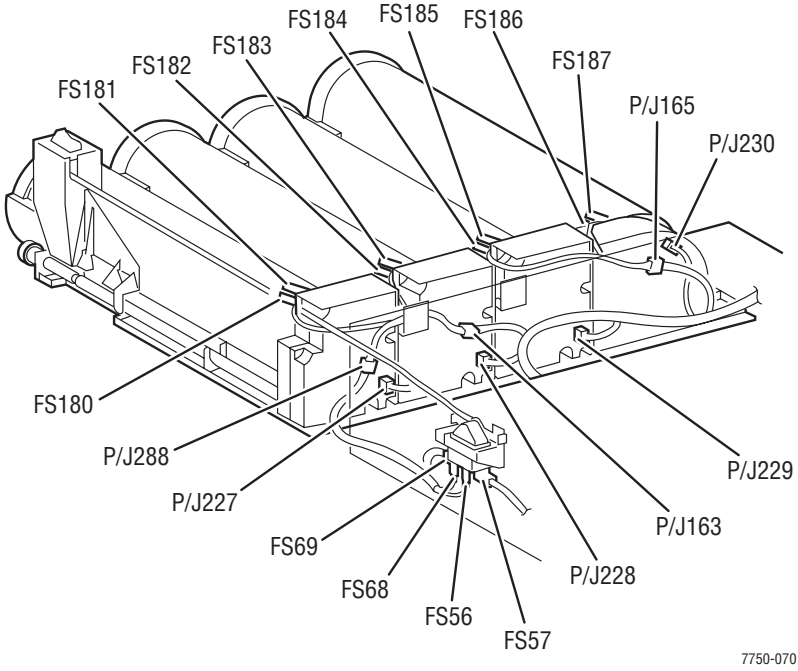
Map 7 - Exit Transport



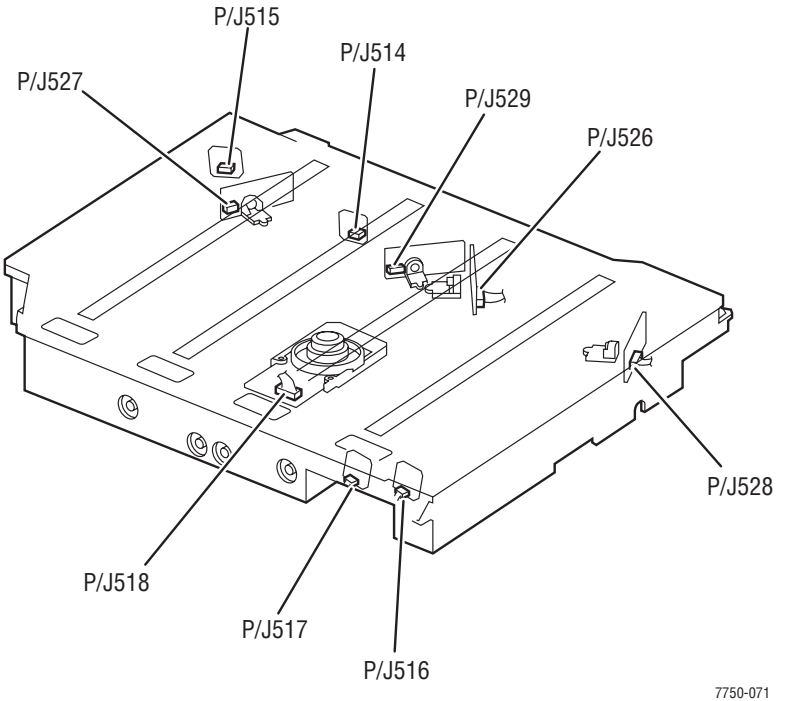
Map 8 - Tray 1



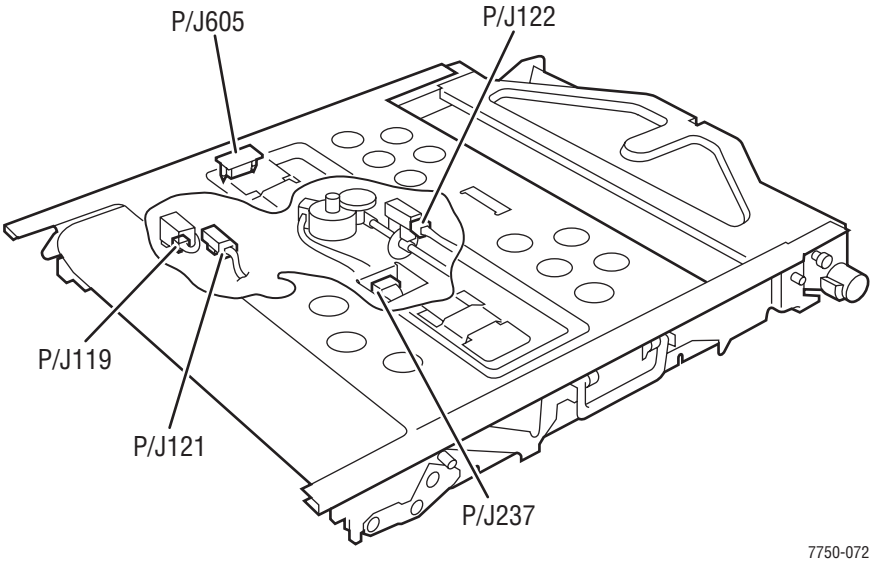
Map 9 - Toner Dispense Motor (YMCK) Switch



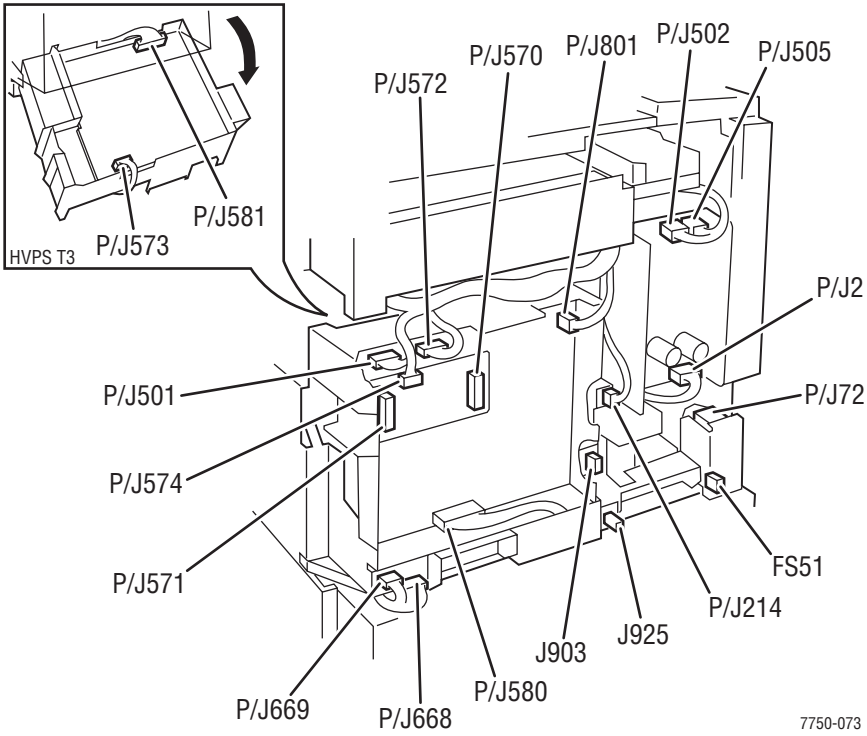
Map 10 - ROS (Laser) Assembly



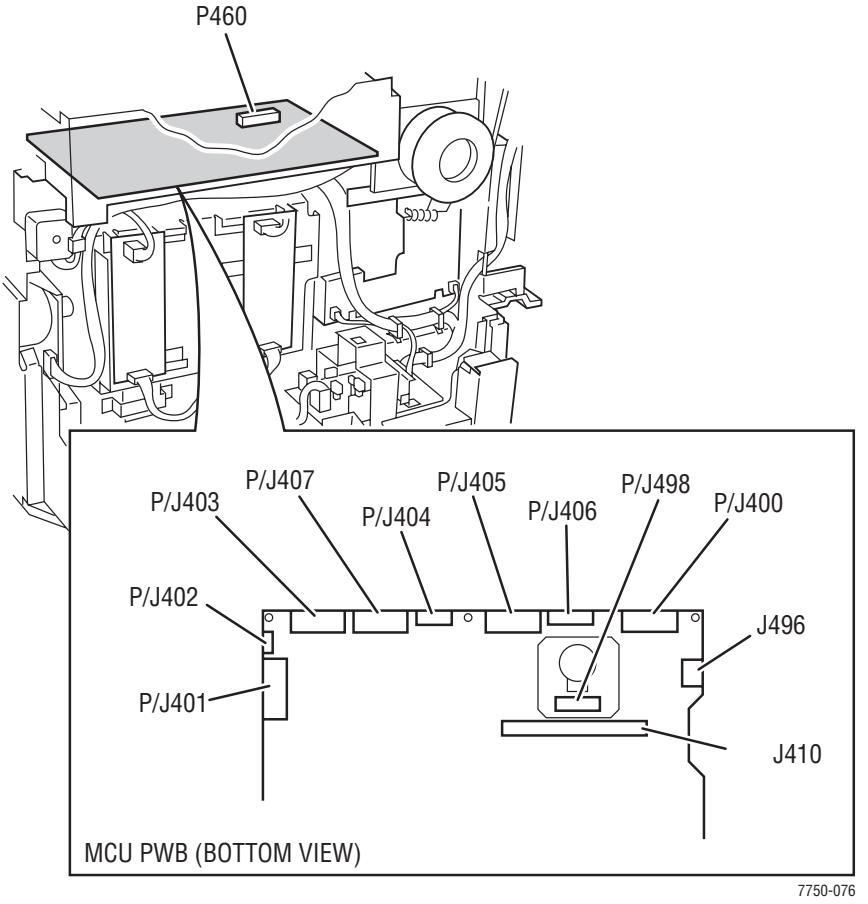
Map 11 - Accumulator Belt



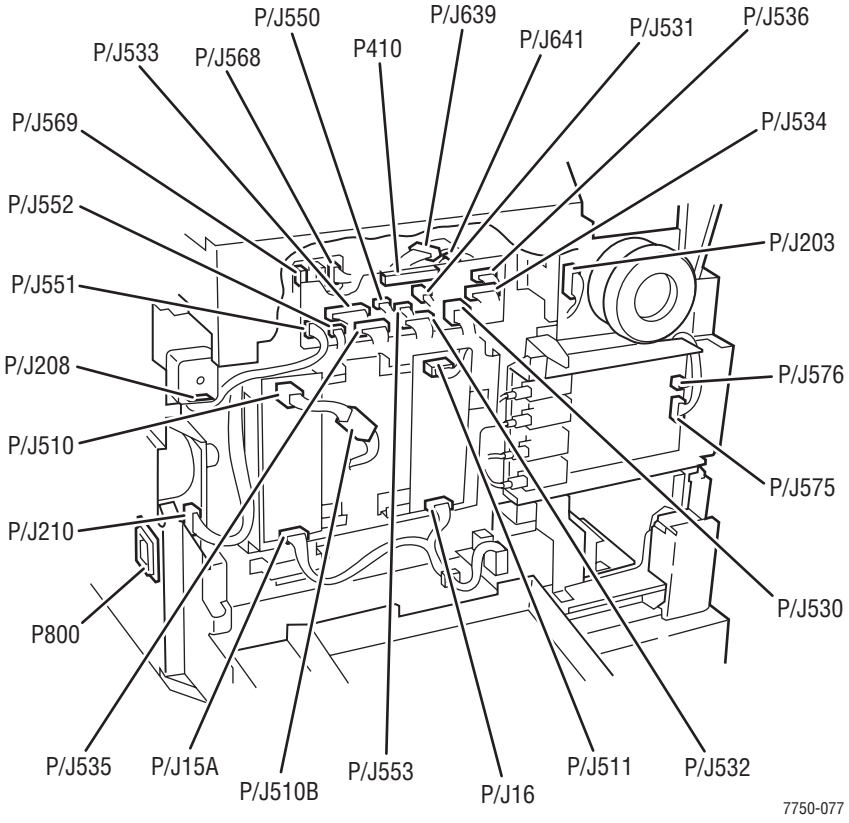
Map 12 - HVPS (T1 and T3) and +24V LVPS



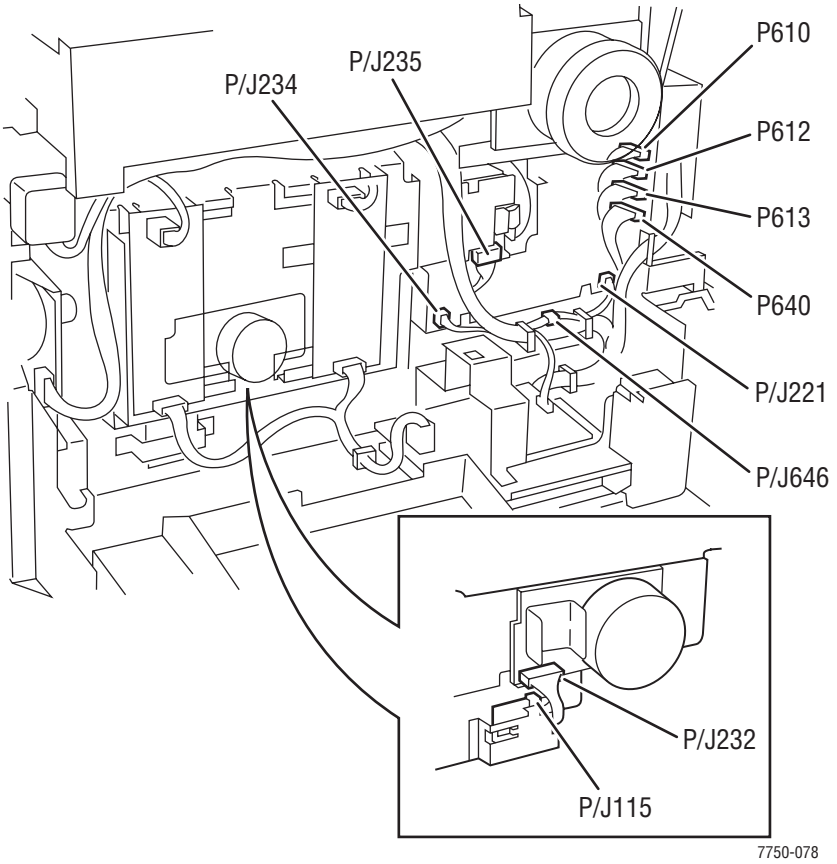
Map 15 - Fuser Fuse Board



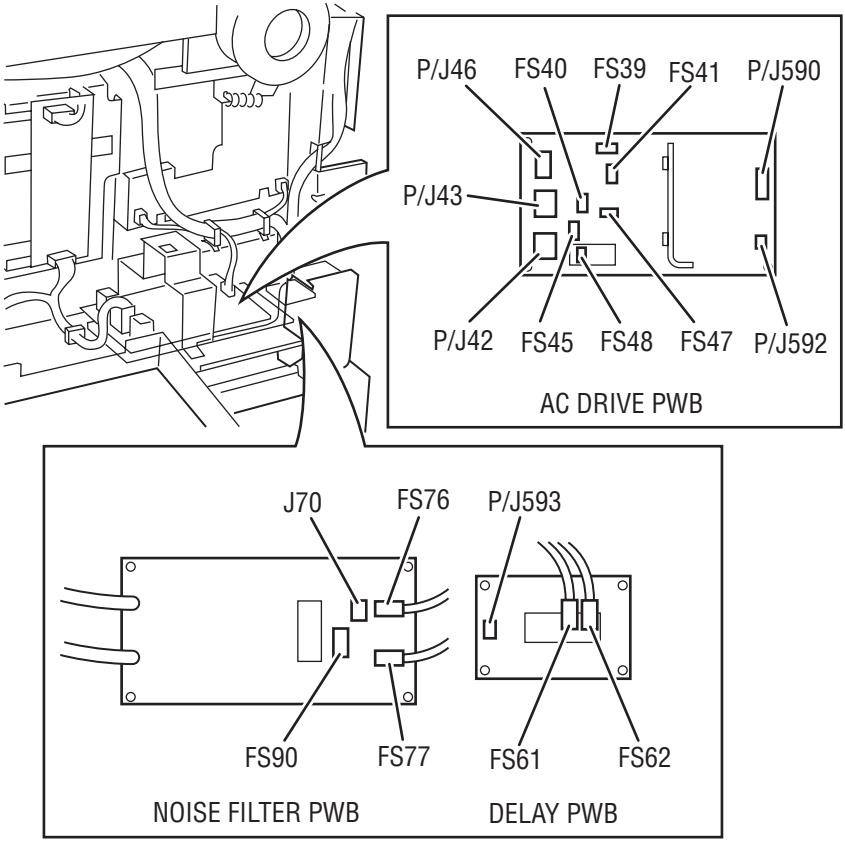
Map 16 - I/F Power Board, Main Motor, LVPS and T2



Map 17 - Developer Motor and Tray 2 Size Switch

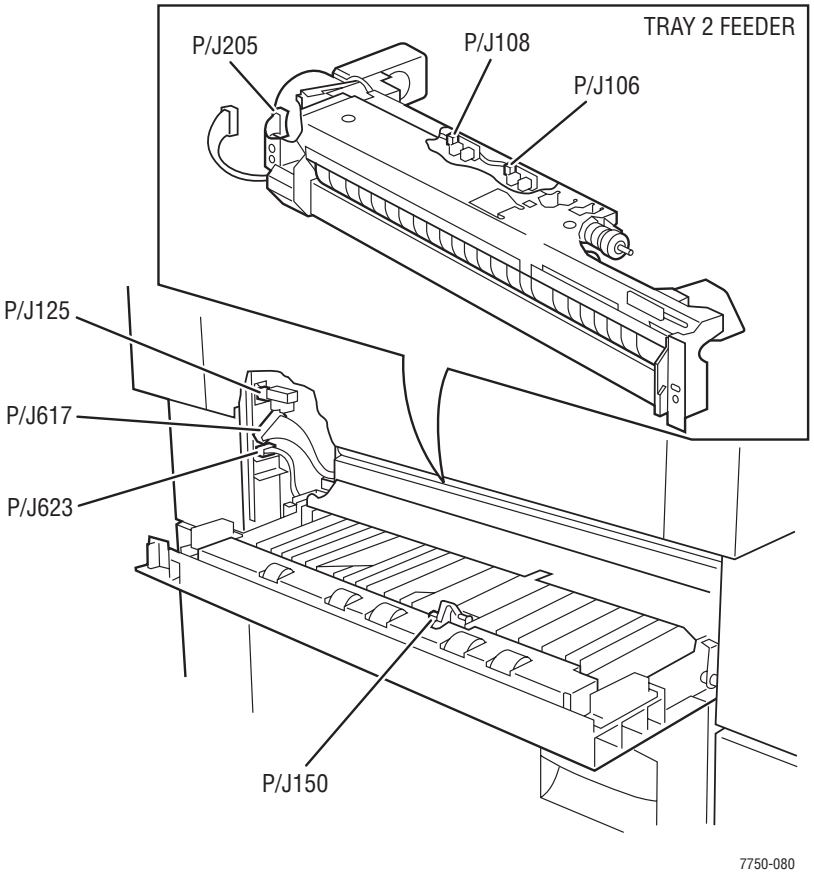


Map 18 - AC Drive, Noise Filter, and Delay Board

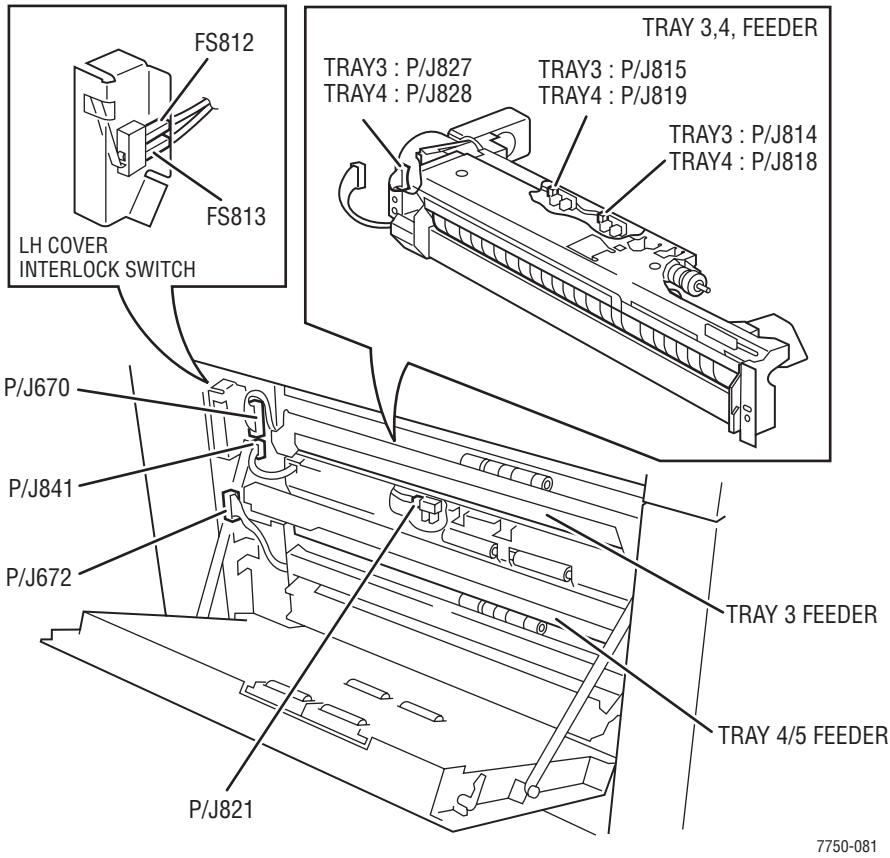


7750-079

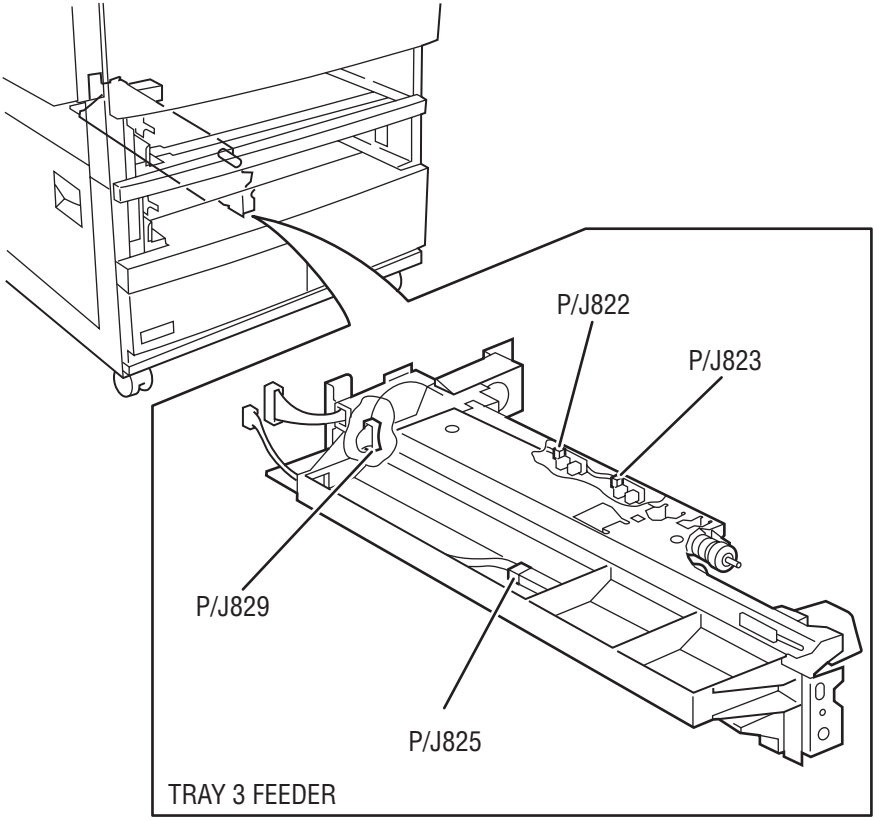
Map 19 - Left Lower Assembly and Tray 2 Feeder



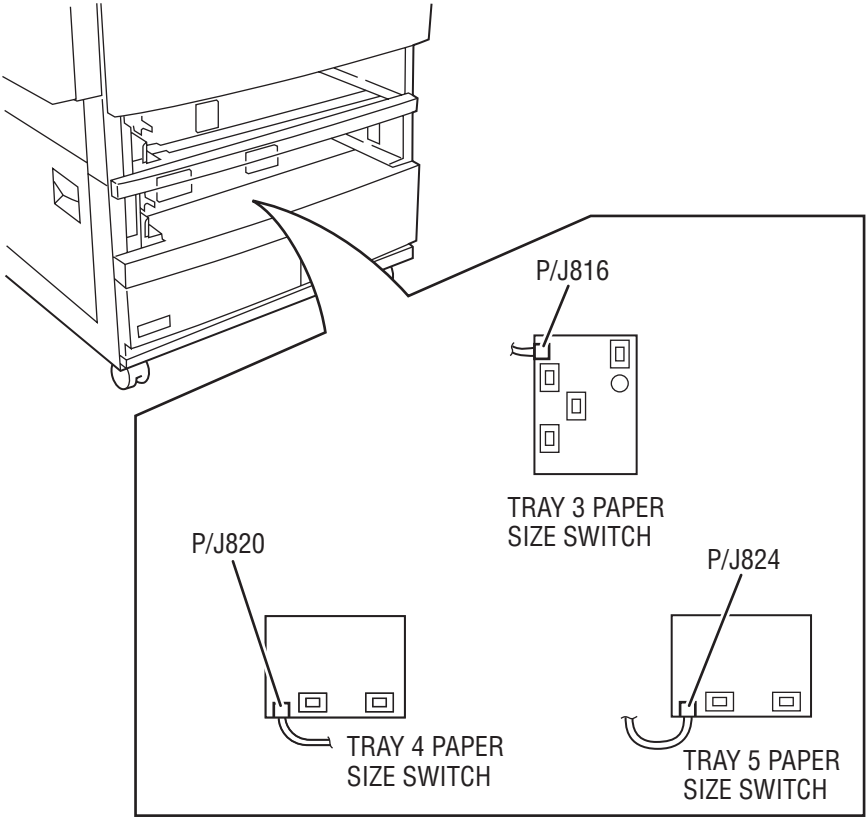
Map 20 - Tray 3 and 4 Feeders (HCF)



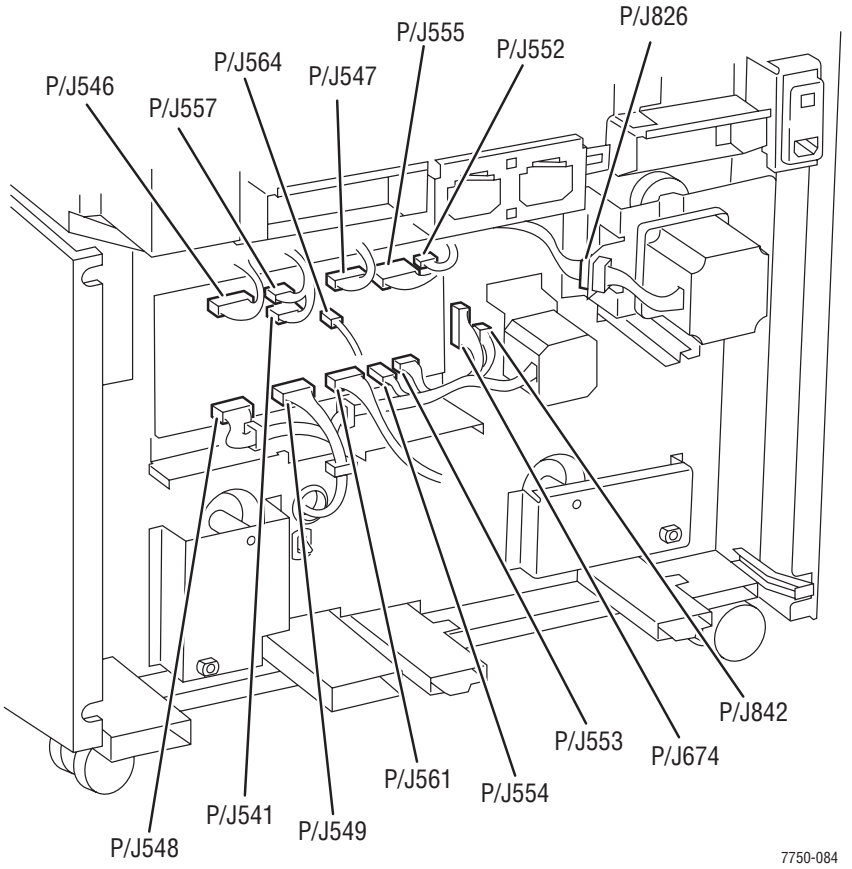
Map 21 - Tray 3 Feeder (HCF)



Map 22 - Trays 3, 4, and 5 Paper Size Switches (HCF)

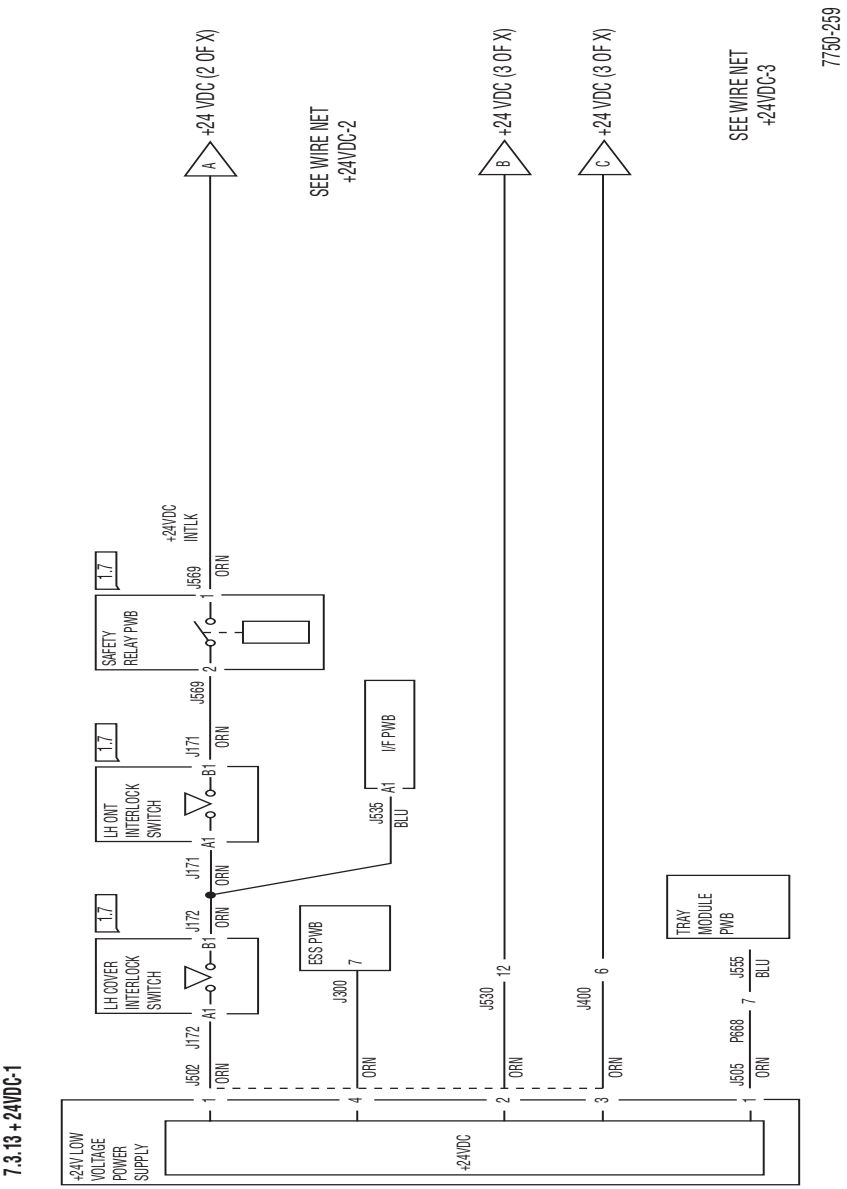


Map 23 - (HCF) Lower Tray (Rear)

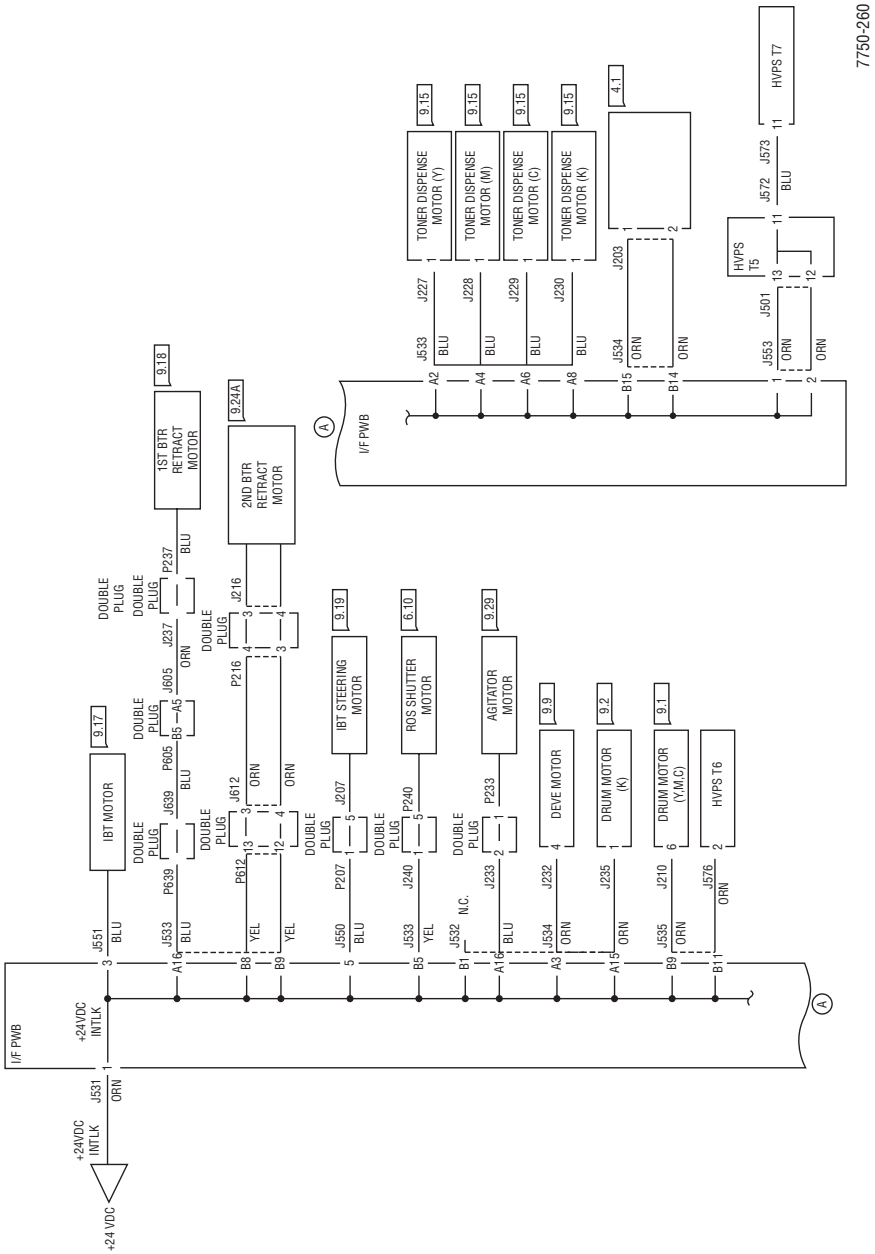


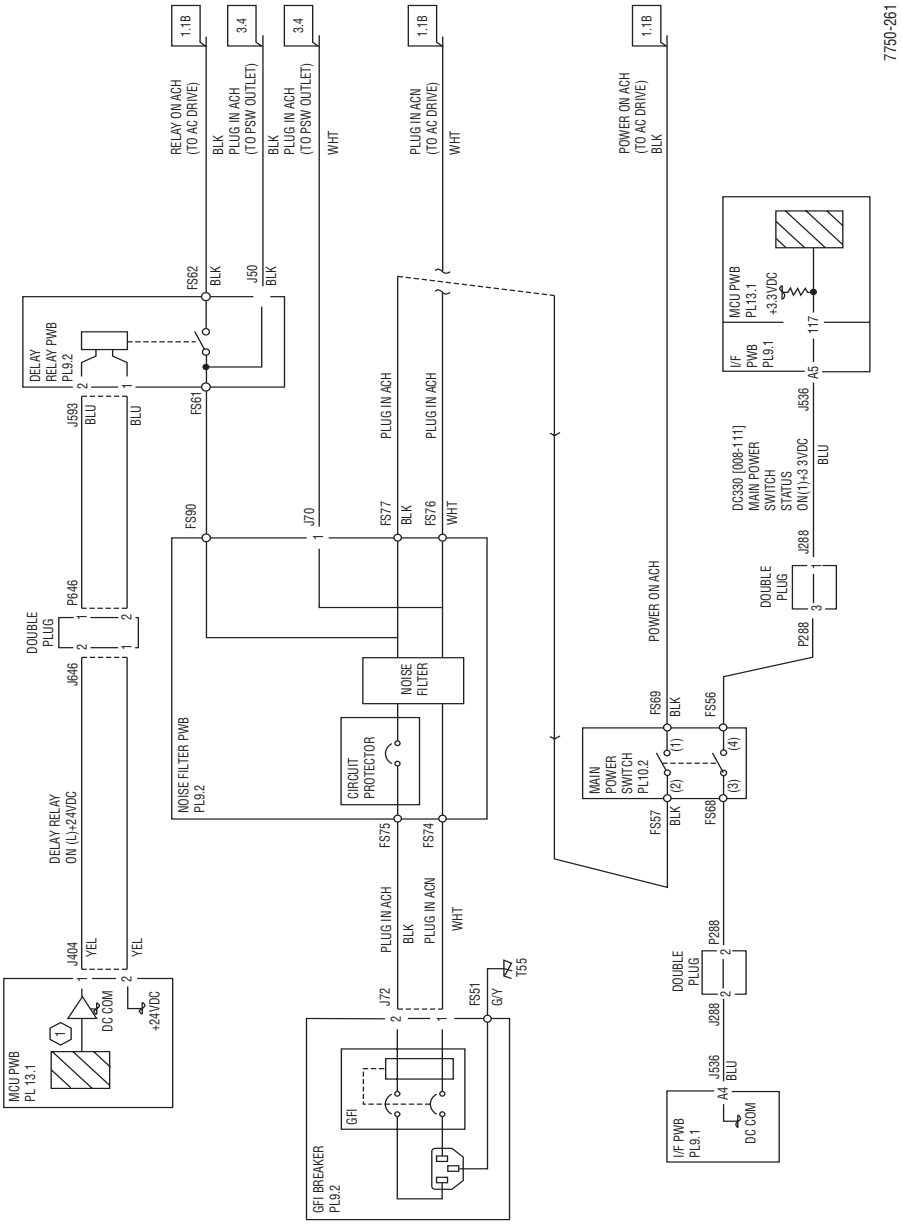
Wiring Diagrams

+24 VDC - 1 of 2

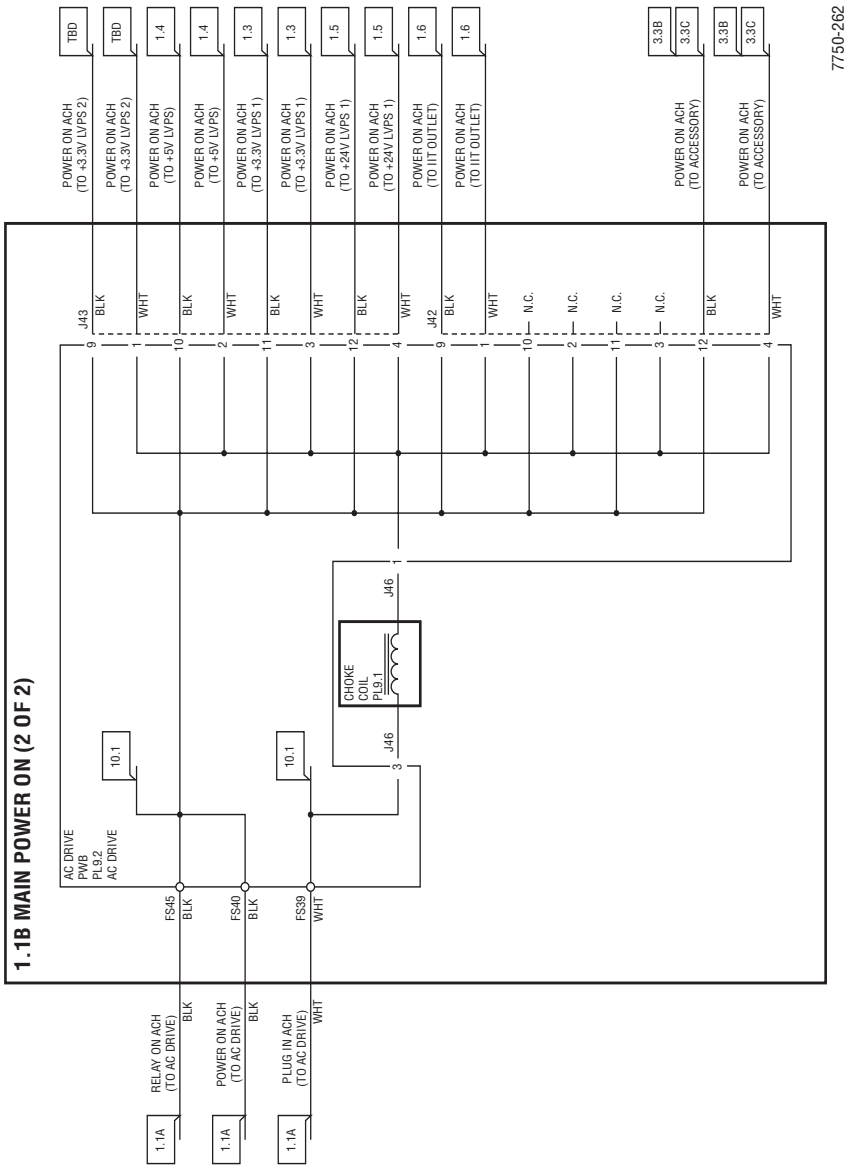

7.3.13 +24VDC-1
+24V LOW VOLTAGE POWER SUPPLY
+24VDC
J502 J172 1 ORN
J172 A1 LH COVER INTERLOCK SWITCH B1 J172 ORN
1.7
J171 A1 LH DNT INTERLOCK SWITCH B1 J171 ORN
1.7
J171 ORN J569 2 SAFETY RELAY PWB 1 J569 1 ORN
1.7
+24VDC INTLK
A +24 VDC (2 OF X)
SEE WIRE NET +24VDC-2
J535 BLU ESS PWB 7 J300 4 ORN
J535 A1 I/F PWB
J530 2 ORN 12 B +24 VDC (3 OF X)
J400 3 ORN 6 C +24 VDC (3 OF X)
J505 1 ORN P668 7 J555 BLU TRAY MODULE PWB
SEE WIRE NET +24VDC-3
7750-259

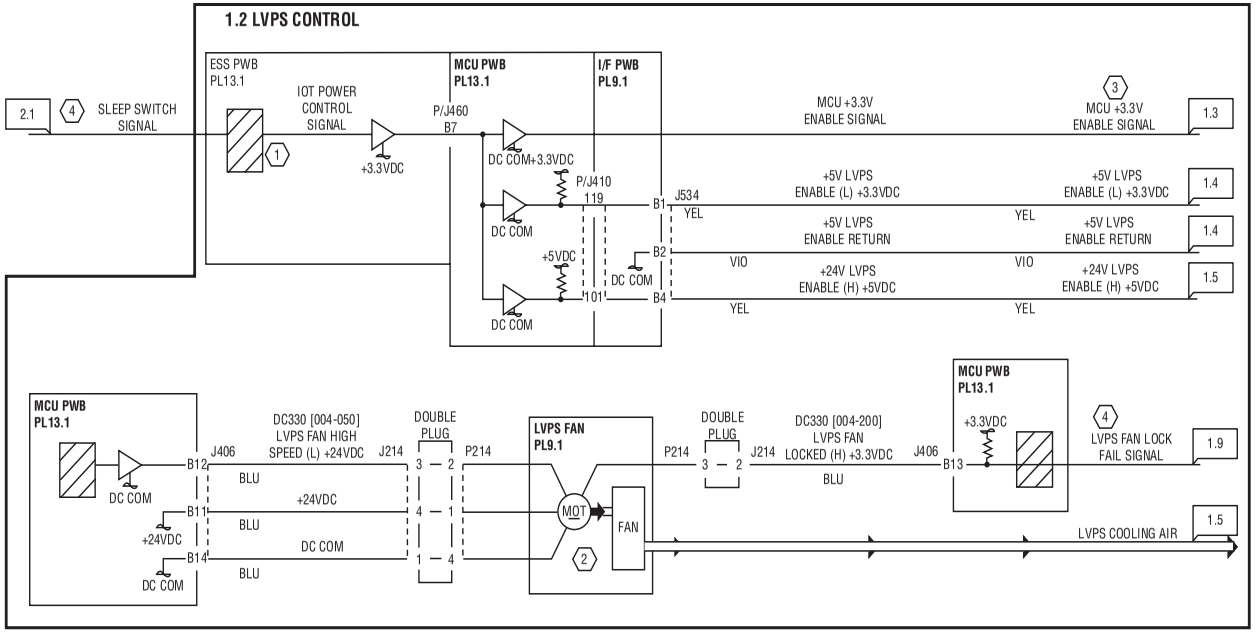
+24 VDC 2 of 2


7750-260
+24 VDC
+24VDC INTLK
J531
ORN
I/F PWB
+24VDC INTLK
J551
BLU
IBT MOTOR
9.17
1ST BTR RETRACT MOTOR
9.18
2ND BTR RETRACT MOTOR
9.24A
IBT STEERING MOTOR
9.19
ROS SHUTTER MOTOR
6.10
AGITATOR MOTOR
9.29
DEVE MOTOR
9.9
DRUM MOTOR (K)
9.2
DRUM MOTOR (Y,M,C)
9.1
HVPS T6
HVPS T7
TONER DISPENSE MOTOR (Y)
TONER DISPENSE MOTOR (M)
TONER DISPENSE MOTOR (C)
TONER DISPENSE MOTOR (K)
9.15
4.1
DOUBLE PLUG
P639
J639
P605
J605
P612
J612
P216
J216
P237
J237
P207
J207
P240
J240
P233
J233
J227
J228
J229
J230
J203
J534
J533
J553
J501
HVPS T5
J572
J573
BLU
ORN
YEL
N.C.


MCU PWB
PL 13.1
J404
YEL
DC COM
+24VDC
DELAY RELAY ON (L)+24VDC
DOUBLE PLUG
P646
J646
DELAY RELAY PWB
PL9.2
J593
BLU
NOISE FILTER PWB
PL9.2
CIRCUIT PROTECTOR
NOISE FILTER
FS90
FS61
FS62
FS75
FS74
FS77
FS76
J70
PLUG IN ACH
PLUG IN ACN
BLK
WHT
RELAY ON ACH (TO AC DRIVE)
PLUG IN ACH (TO PSW OUTLET)
PLUG IN ACN (TO AC DRIVE)
1,1B
3,4
J50
J72
FS51
G/Y
T55
GFI BREAKER PL9.2
GFI
MAIN POWER SWITCH PL10.2
FS69
FS56
FS57
FS68
POWER ON ACH
POWER ON ACH (TO AC DRIVE)
DOUBLE PLUG
P288
J288
J536
A4
I/F PWB PL9.1
DC COM
DC330 [008-111] MAIN POWER SWITCH STATUS ON(1)+3.3VDC
MCU PWB PL13.1 +3.3VDC
I/F PWB PL9.1
A5
117
7750-261

Main Power 2 of 2





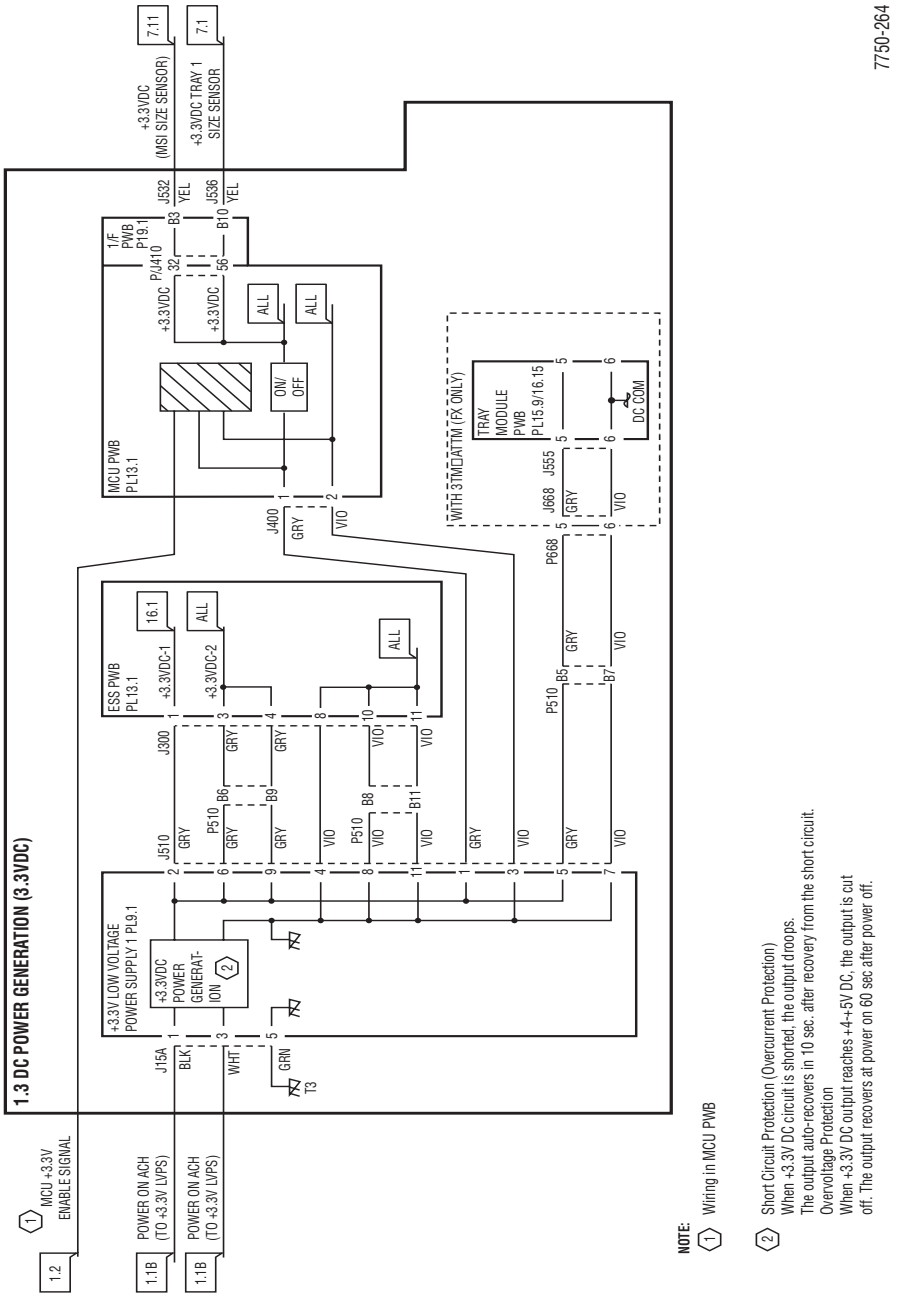
NOTE:

1. In Sleep Mode, M/C turns off the +5V LVPS and +24V LVPS Enable signal to cut off the +5V DC and +24V DC output.
   In Sleep Mode, through +3.3V LVPS remains on, +3.3V DC supplied to either of the PWBs is cut off to part of ESS PWB and all the parts of MCU PWB (See CH 1.3.)

2. LVPS Fan starts low-speed rotation at power on and keeps it with M/C on standby.
   LVPS Fan starts high speed rotation at Main Motor On and transits to low-speed rotation 15sec (adjustable in NVM) after Main Motor Off.
   In Sleep Mode, LVPS Fan stops rotating because +24V DC is cut off.

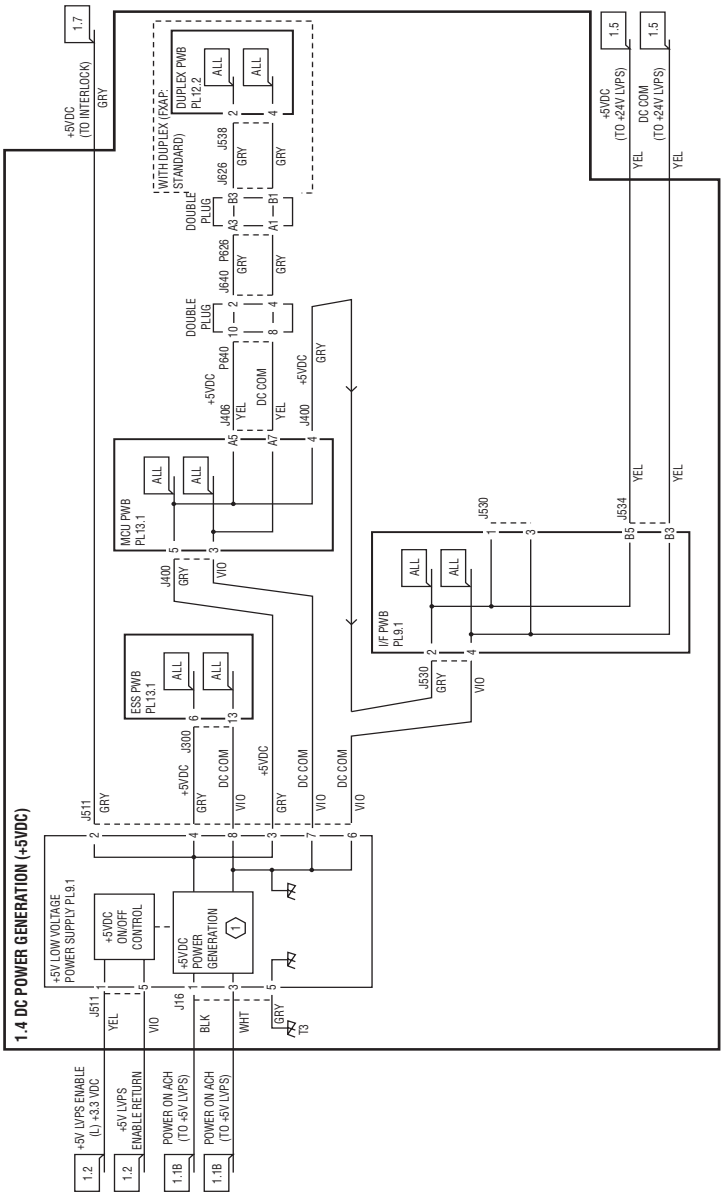
7750-263

DC Power Generation 3.3 VDC



7750-264

DC Power Generation 5 VDC

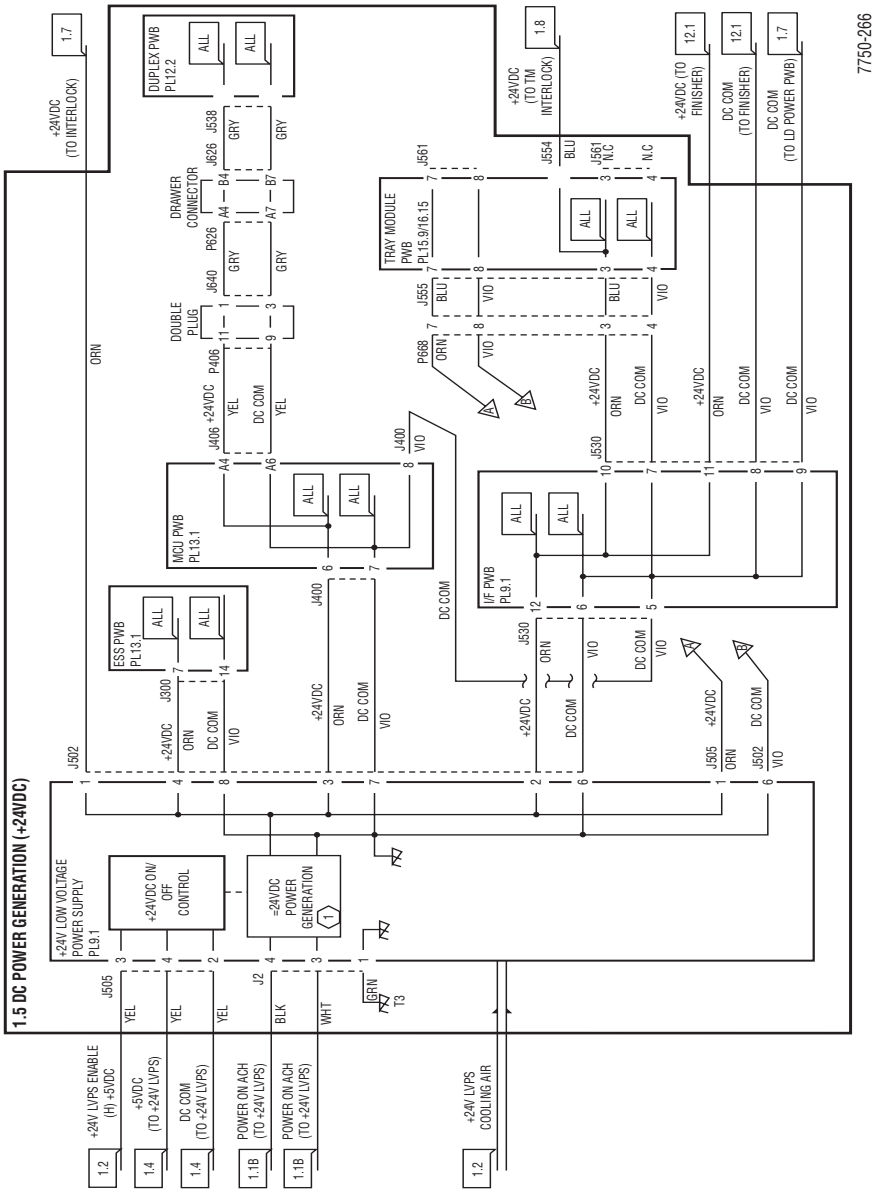


1 Short Circuit Protection (Overcurrent Protection)
When +5V DC circuit is shorted, the output drops.
The output auto-recovers in 10sec after recovery from the short.

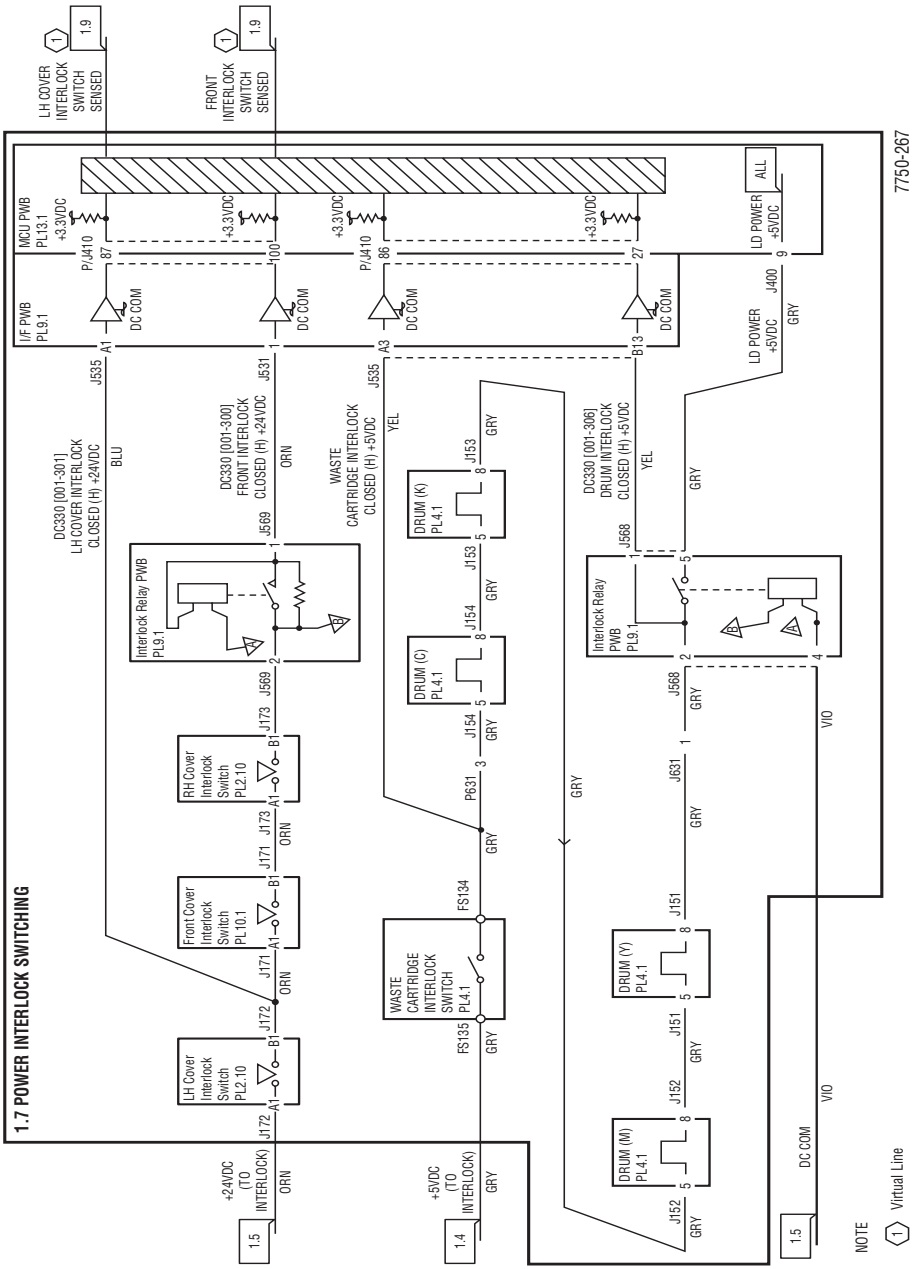
Overvoltage Protection
When +5v DC output reaches +6-8V DC, the output is cut off. The output recovers at power on 60sec after power off.

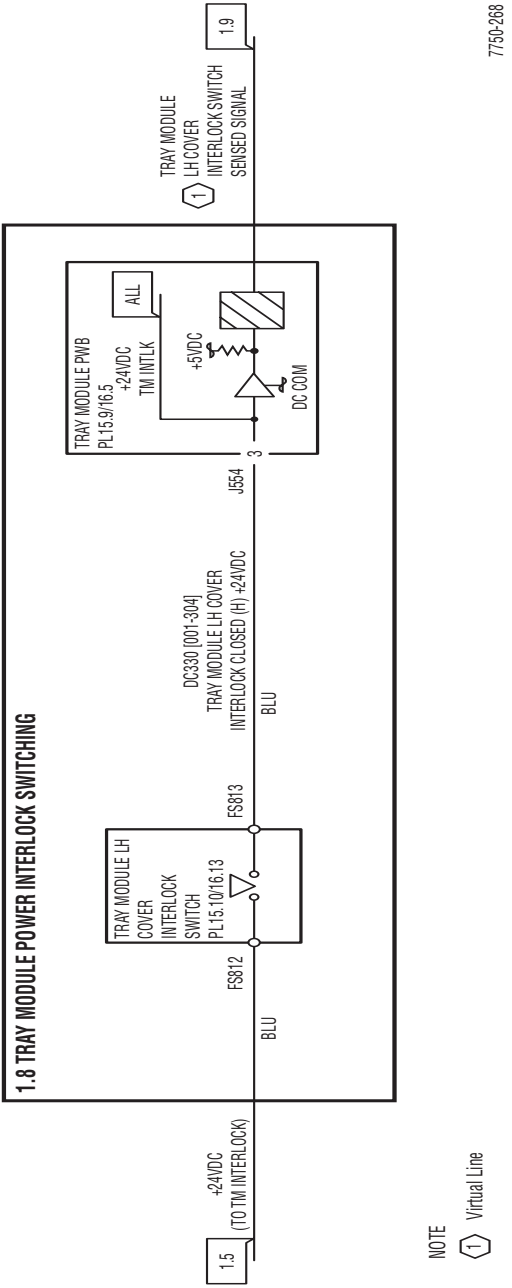
7750-265

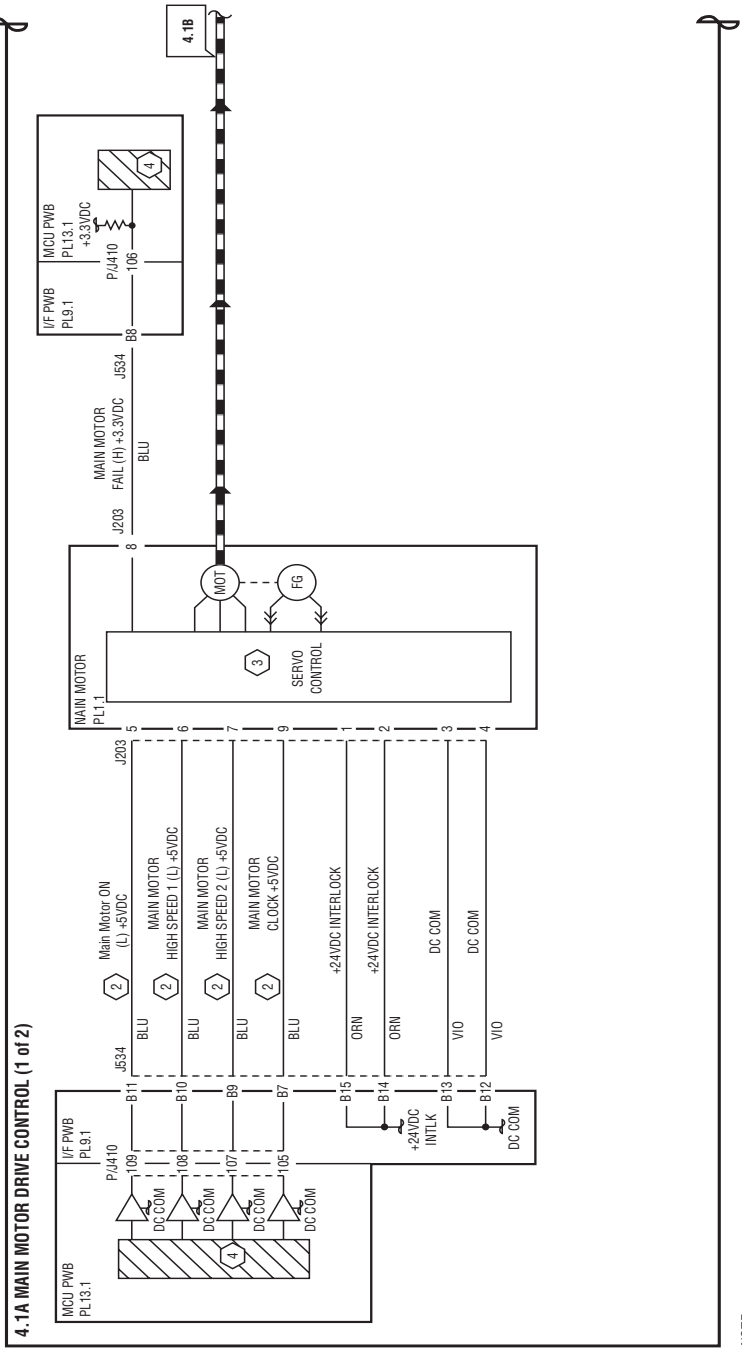
DC Power Generation +24 VDC



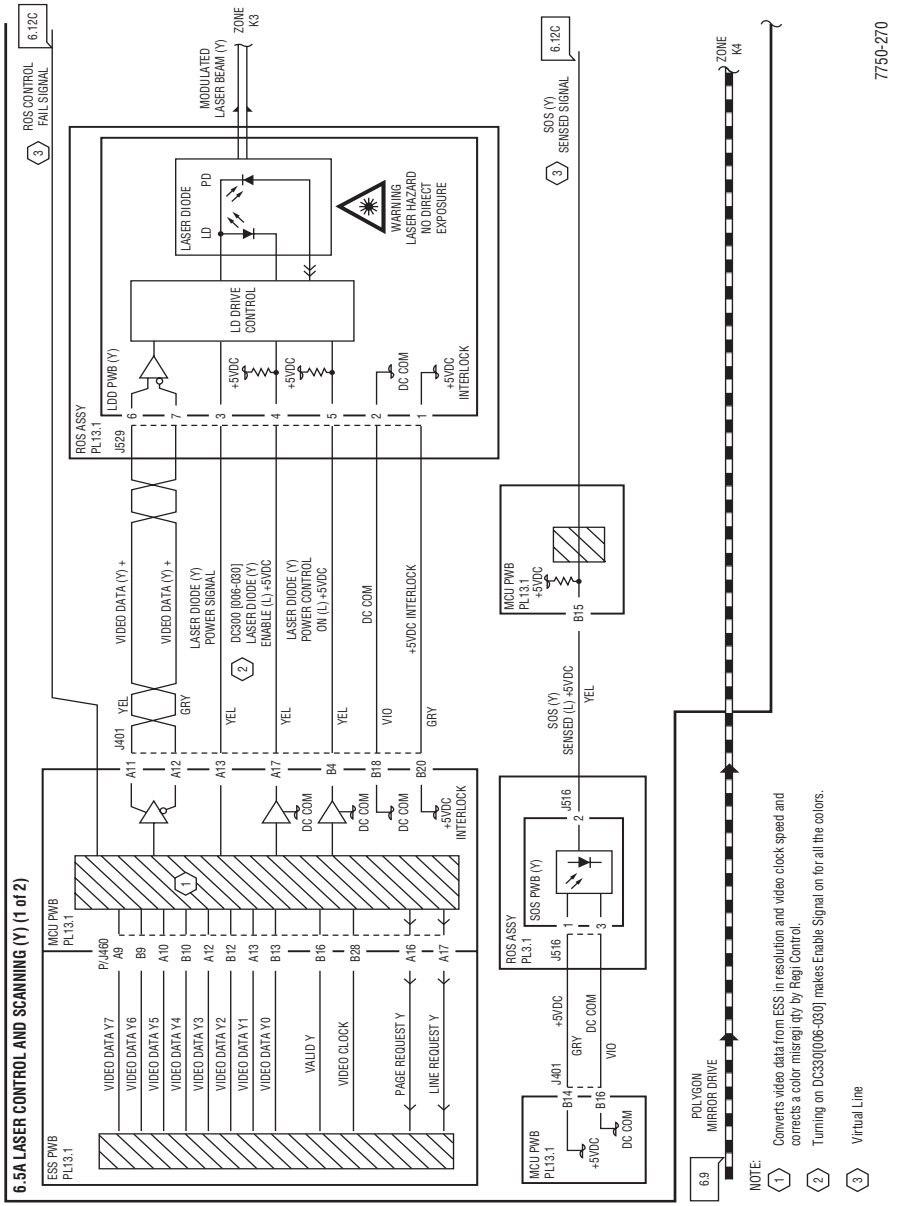
Power Interlock Switching



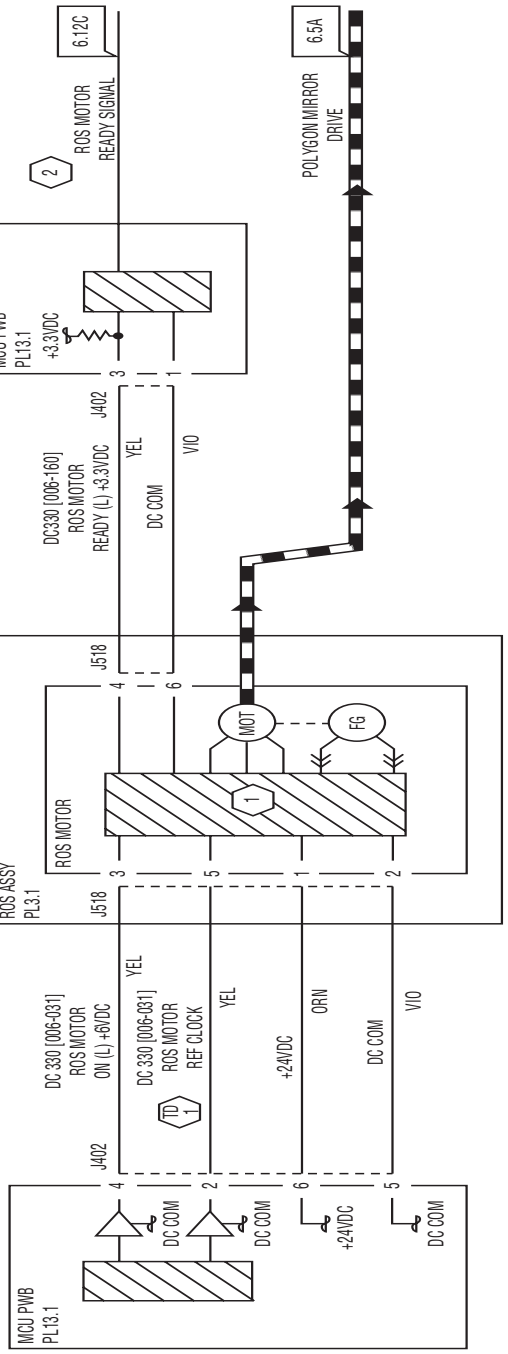

1.8 TRAY MODULE POWER INTERLOCK SWITCHING
1.5
+24VDC
(TO TM INTERLOCK)
BLU
FS812
TRAY MODULE LH
COVER
INTERLOCK
SWITCH
PL15.10/16.13
FS813
DC330 [001-304]
TRAY MODULE LH COVER
INTERLOCK CLOSED (H) +24VDC
BLU
J554
3
TRAY MODULE PWB
PL15.9/16.5
+24VDC
TM INTLK
ALL
+5VDC
DC COM
TRAY MODULE
1
LH COVER
INTERLOCK SWITCH
SENSED SIGNAL
1.9
7750-268
NOTE
1
Virtual Line


4.1A MAIN MOTOR DRIVE CONTROL (1 of 2)
MCU PWB PL13.1
P/J410
I/F PWB PL9.1
J534
B11
B10
B9
B7
B15
B14
B13
B12
109
108
107
105
DC COM
+24VDC INTLK
Main Motor ON (L) +5VDC
MAIN MOTOR HIGH SPEED 1 (L) +5VDC
MAIN MOTOR HIGH SPEED 2 (L) +5VDC
MAIN MOTOR CLOCK +5VDC
+24VDC INTERLOCK
+24VDC INTERLOCK
DC COM
DC COM
BLU
ORN
VIO
J203
NAIN MOTOR PL1.1
SERVO CONTROL
MOT
FG
MAIN MOTOR FAIL (H) +3.3VDC
J203
J534
8
B8
106
P/J410
MCU PWB PL13.1
+3.3VDC
I/F PWB PL9.1
4.1B
NOTE:
1 This drives at high speed for standard paper and half speed for OHP film
2 Main Motor rotates at normal speed with DC330 [004-004] on, at half speed with DC330 [004-007] on, and at double speed with DC 330 [004-008] on.
3 Rotation speed is controlled comared with the internal clock.
4 Main Motor Fail Detection is disabled.
7750-269

Laser Control Y (As an Example)



6.9 LASEER SCAN DRIVE CONTROLLER

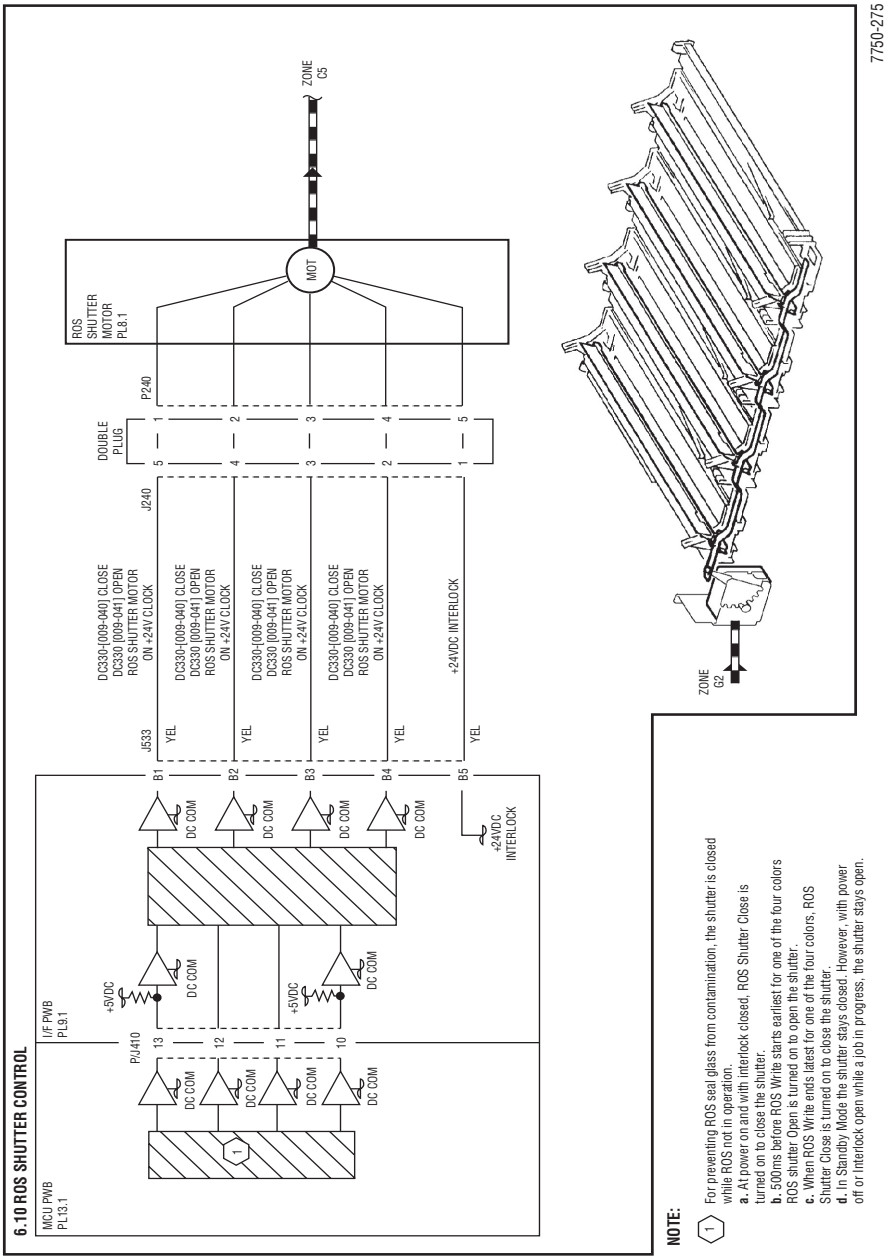


7750-274

1 Controls rotation speed in comparison with ROS Motor Ref Clock.

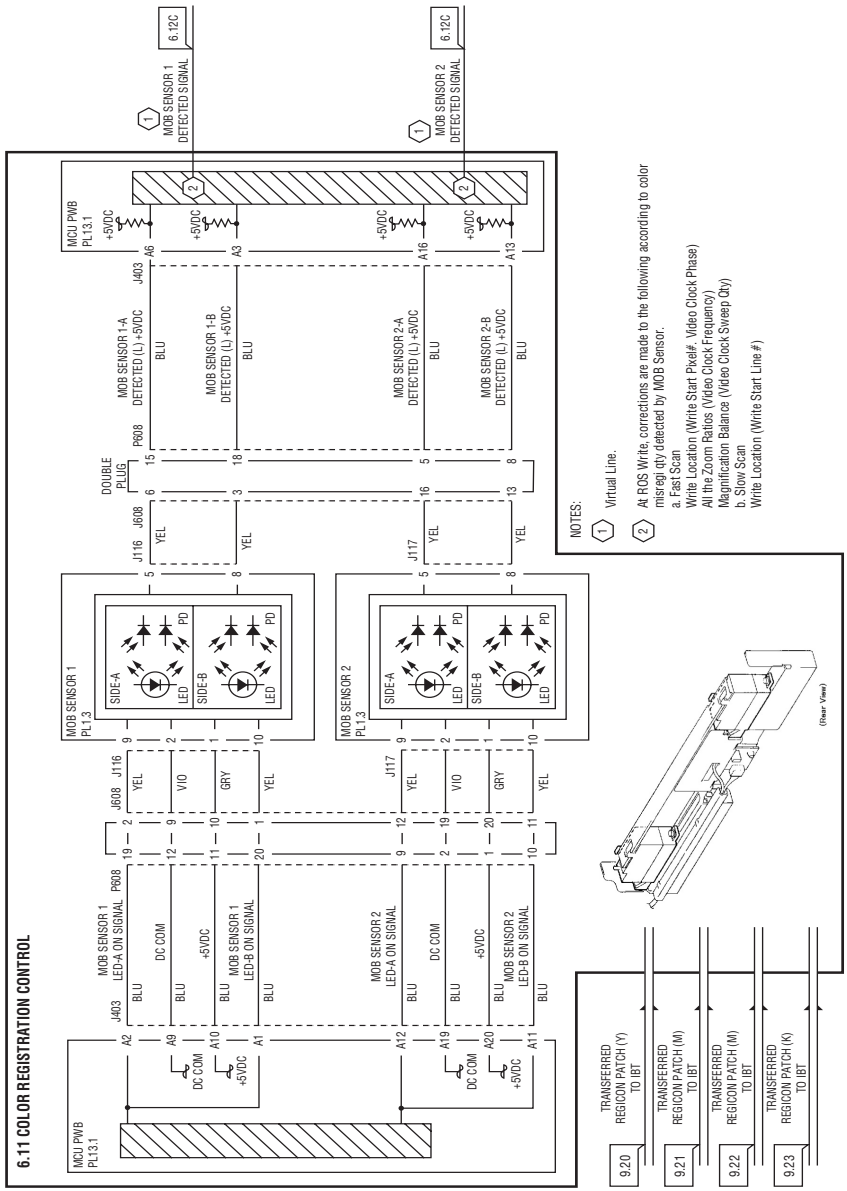
TD 1 Test Point on MCU PWB J402-2(+) GND(_) A frequency of approx. 2.5KHz

2 Virtual Line



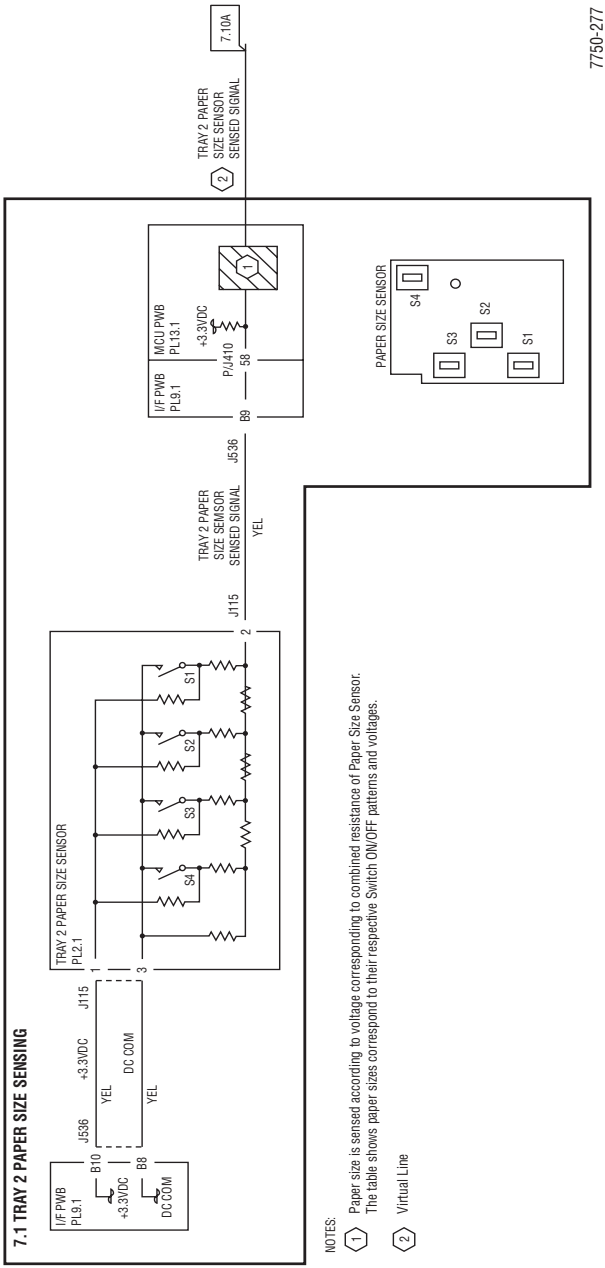
NOTE:

1. For preventing ROS seal glass from contamination, the shutter is closed while ROS not in operation.
   a. At power on and with interlock closed, ROS Shutter Close is turned on to close the shutter.
   b. 500ms before ROS Write starts earliest for one of the four colors ROS shutter Open is turned on to open the shutter.
   c. When ROS Write ends latest for one of the four colors, ROS Shutter Close is turned on to close the shutter.
   d. In Standby Mode the shutter stays closed. However, with power off or Interlock open while a job in progress, the shutter stays open.

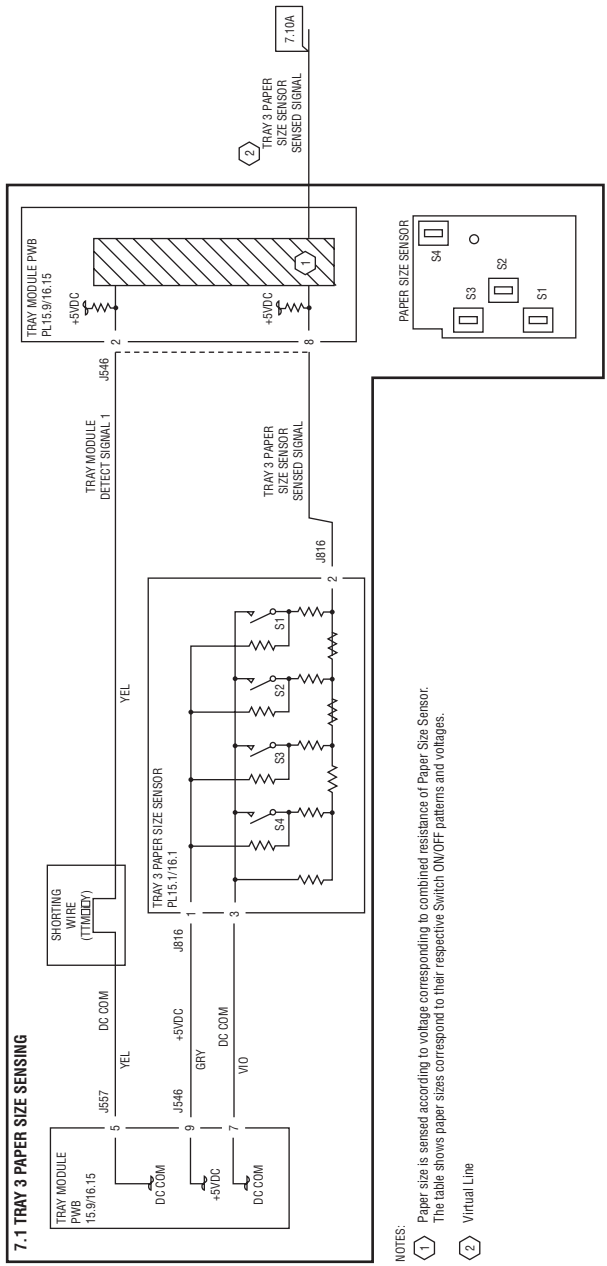

6.11 COLOR REGISTRATION CONTROL
MCU PWB PL13.1
MOB SENSOR 1 PL1.3
MOB SENSOR 2 PL1.3
SIDE-A
SIDE-B
LED
PD
DOUBLE PLUG
P608
J608
J116
J117
J403
A6
A3
A16
A13
+5VDC
BLU
YEL
VIO
GRY
DC COM
MOB SENSOR 1 DETECTED (L) +5VDC
MOB SENSOR 1-A DETECTED (L) +5VDC
MOB SENSOR 1-B DETECTED (L) +5VDC
MOB SENSOR 2 DETECTED (L) +5VDC
MOB SENSOR 2-A DETECTED (L) +5VDC
MOB SENSOR 2-B DETECTED (L) +5VDC
MOB SENSOR 1 LED-A ON SIGNAL
MOB SENSOR 1 LED-B ON SIGNAL
MOB SENSOR 2 LED-A ON SIGNAL
MOB SENSOR 2 LED-B ON SIGNAL
MOB SENSOR 1 DETECTED SIGNAL
MOB SENSOR 2 DETECTED SIGNAL
6.12C
TRANSFERRED REGICON PATCH (Y) TO IBT
TRANSFERRED REGICON PATCH (M) TO IBT
TRANSFERRED REGICON PATCH (M) TO IBT
TRANSFERRED REGICON PATCH (K) TO IBT
9.20
9.21
9.22
9.23
(Rear View)
NOTES:
1 Virtual Line.
2 At ROS Write, corrections are made to the following according to color misregi qty detected by MOB Sensor.
a. Fast Scan
Write Location (Write Start Pixel#, Video Clock Phase)
All the Zoom Ratios (Video Clock Frequency)
Magnification Balance (Video Clock Sweep Qty)
b. Slow Scan
Write Location (Write Start Line #)

7750-276

Tray 2 Paper Size Sensing

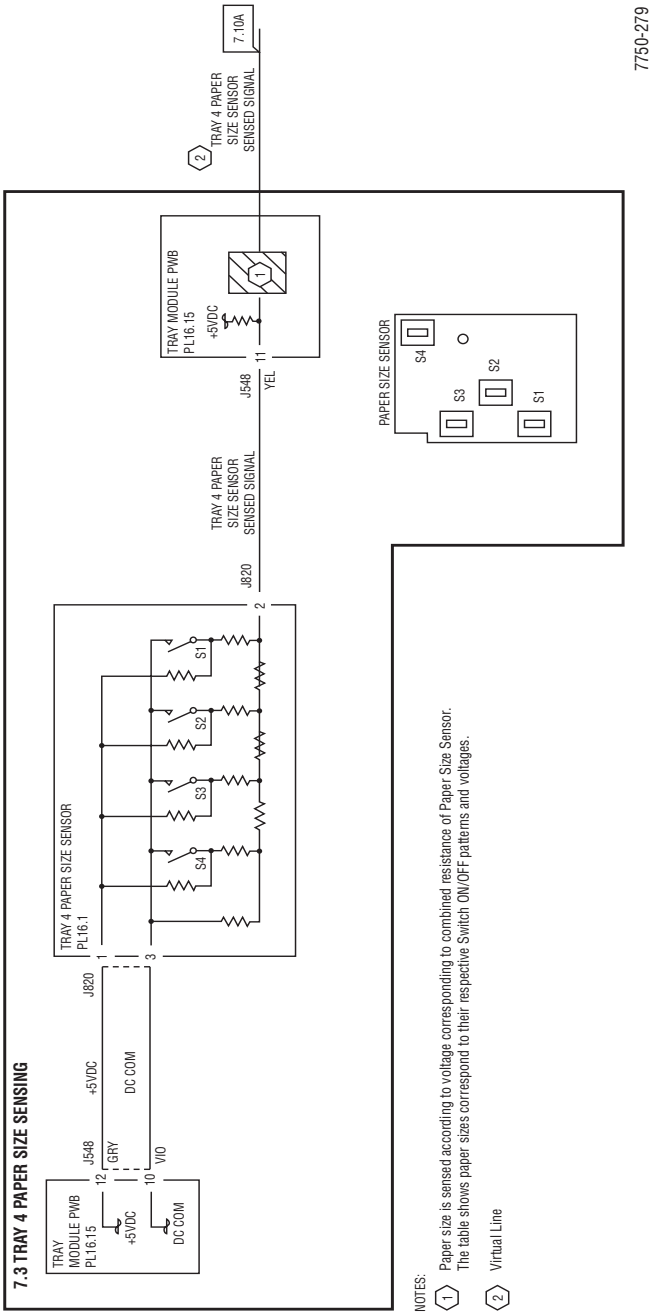


Tray 3 Paper Size Sensing

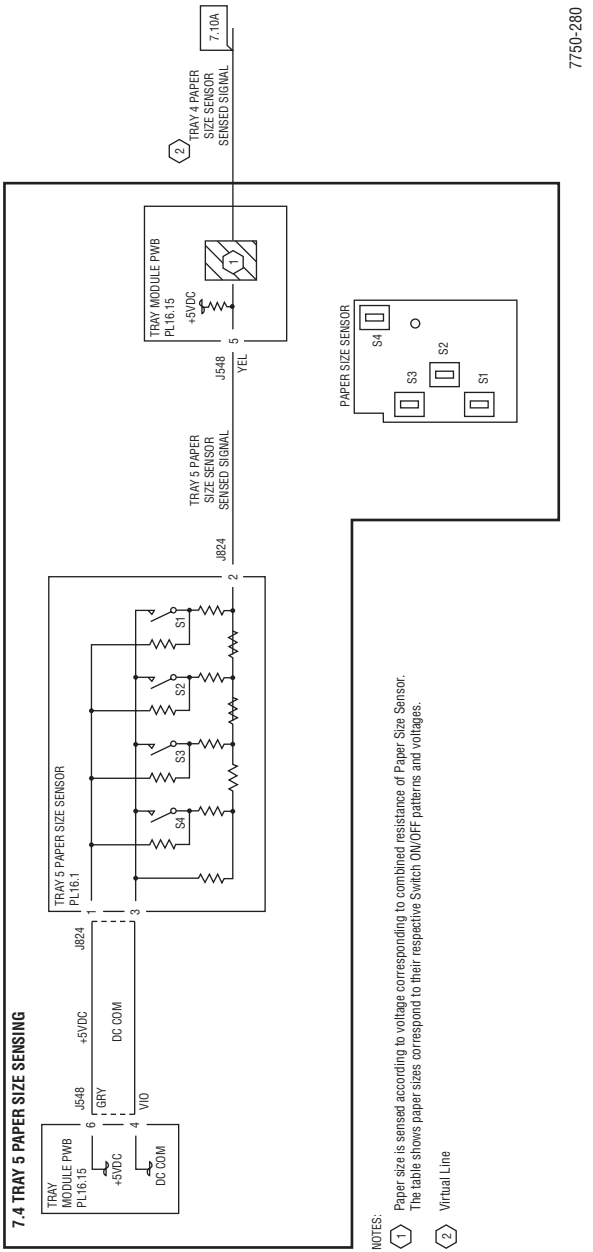


7750-278

Tray 4 Paper Size Sensing



Tray 5 Paper Size Sensing



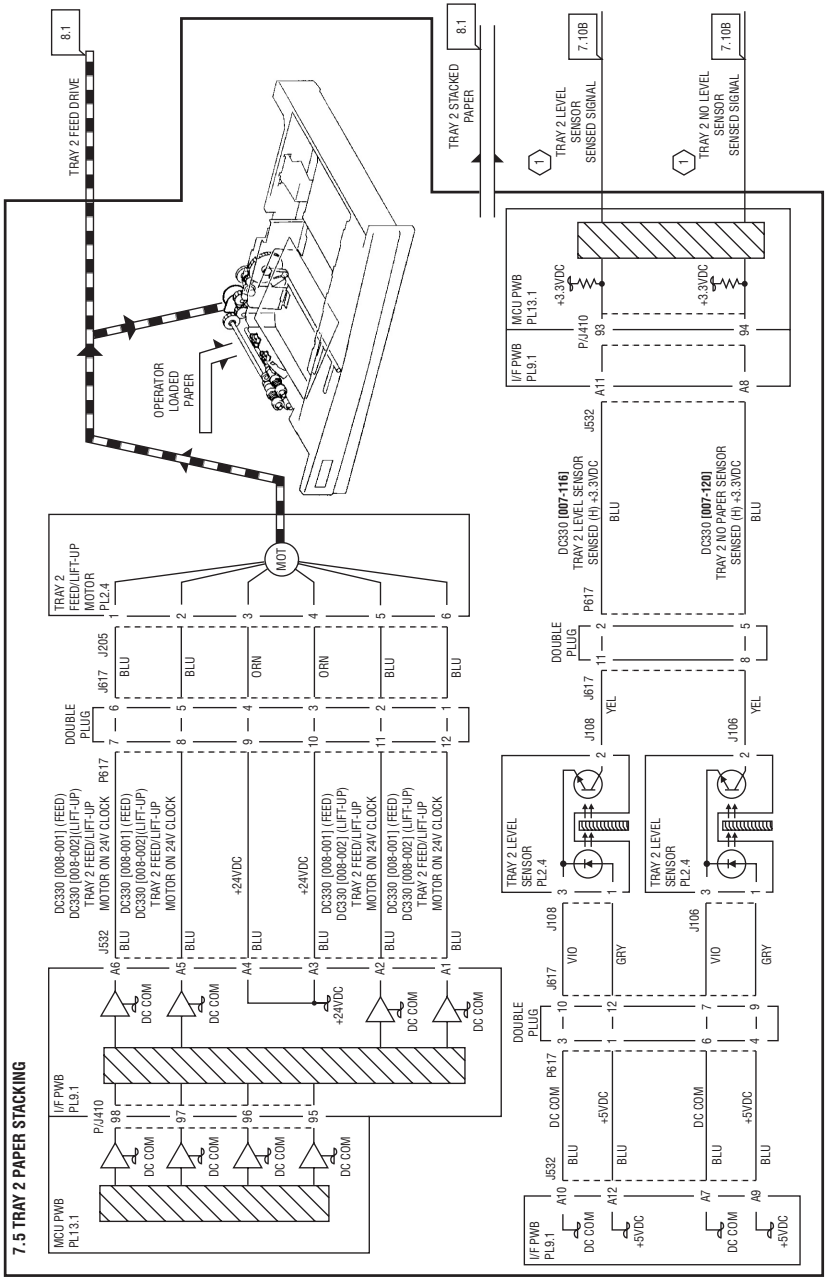
7750-280

Paper Size Sensing Switch Table

Paper size is sensed according to voltage corresponding to combined resistance of the paper size sensor. The table shows paper sizes repective to their ON/OFF patterns and voltages.

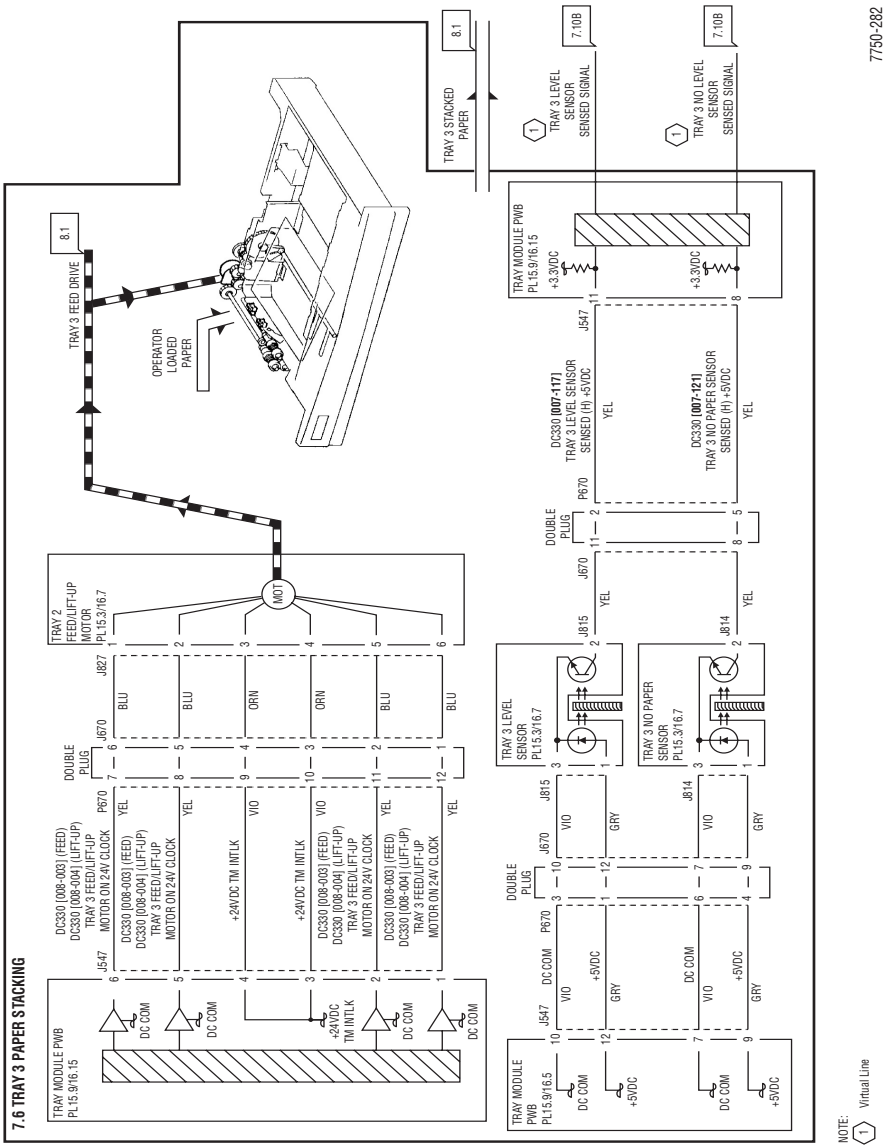
Paper Size	S1 DC330 [007-104]	S2 DC330 [007-105]	S3 DC330 [007-106]	S4 DC330 [007-107]	Voltage J546-8
No Tray	OFF	OFF	OFF	OFF	4.66
A3 S	OFF	OFF	OFF	ON	4.33
11” x 17”	OFF	OFF	ON	OFF	4.01
8.5” x 13” S	OFF	OFF	ON	ON	3.69
	OFF	ON	OFF	OFF	3.38
B5 L 16K L	OFF	ON	OFF	ON	3.07
B5 S 8” x 10” S	OFF	ON	ON	OFF	2.75
8.5” x 11” S	OFF	ON	ON	ON	2.44
	ON	OFF	OFF	OFF	2.15
B4 S 8K S	ON	OFF	OFF	ON	1.83
A4 S	ON	OFF	ON	OFF	1.52
8.5” x S14”	ON	OFF	ON	ON	1.21
	ON	ON	OFF	OFF	0.91
A4 L	ON	ON	OFF	ON	0.60
8.5” x 11” L	ON	ON	ON	OFF	0.30
A5 S 5.5” x 8.5” S	ON	ON	ON	ON	0.00

Tray 2 Paper Stacking

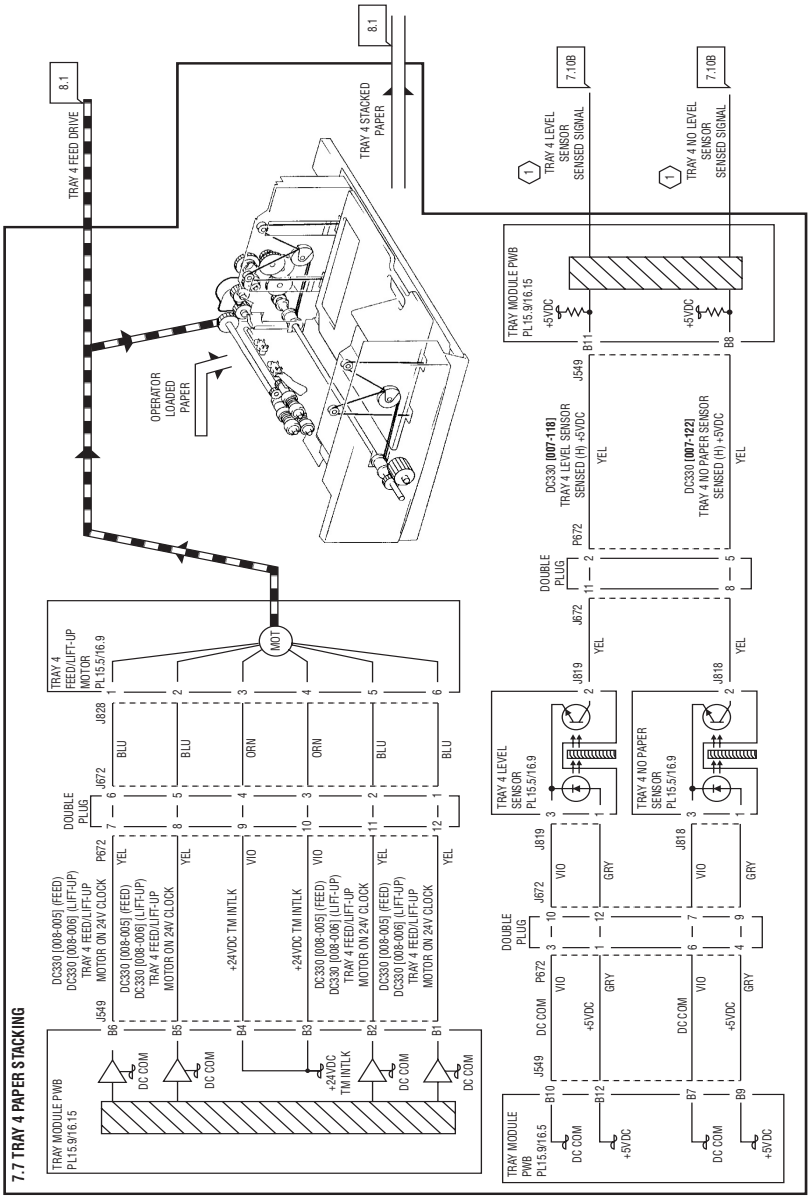


7750-281

Tray 3 Paper Stacking

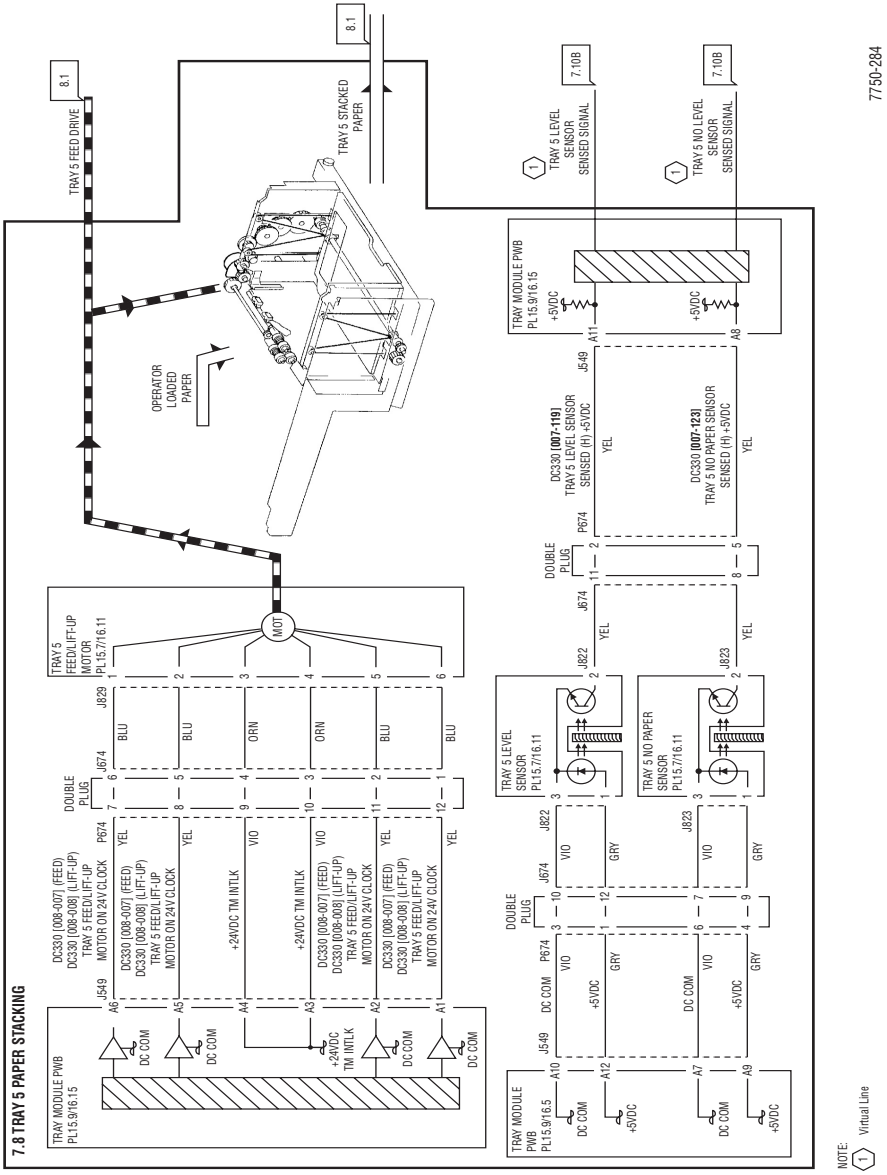


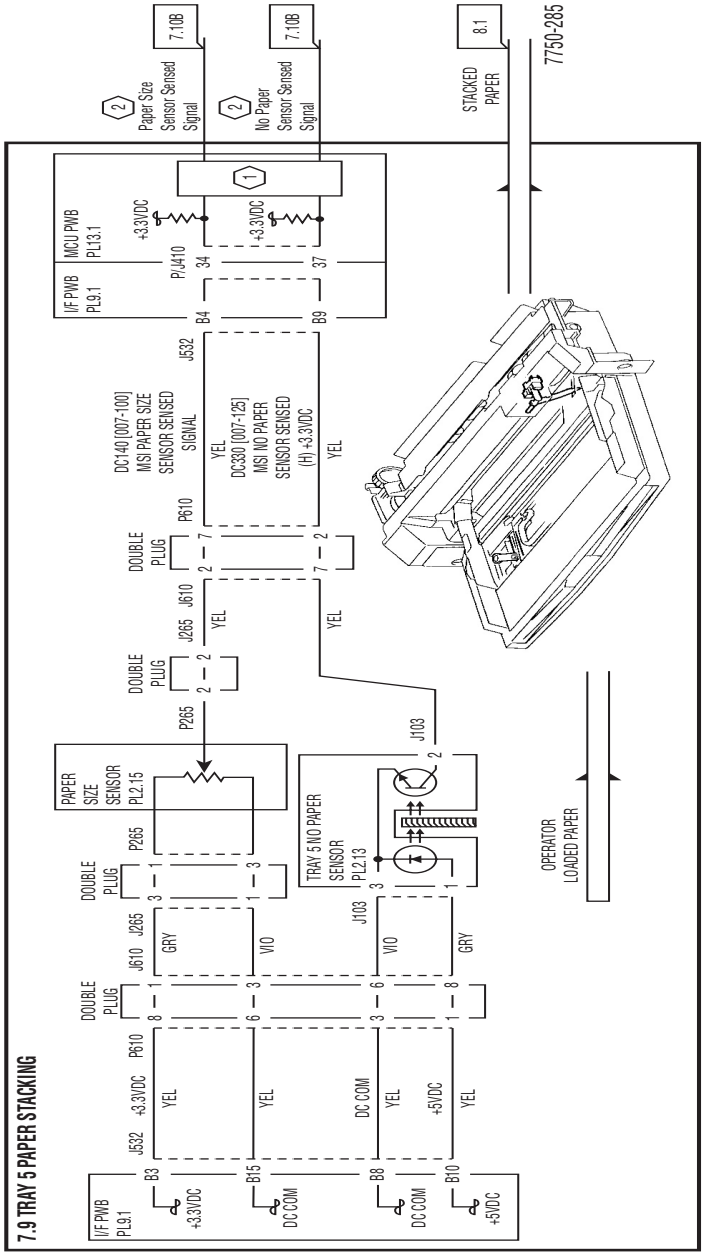
Tray 4 Paper Stacking



7750-283

Tray 5 Paper Stacking

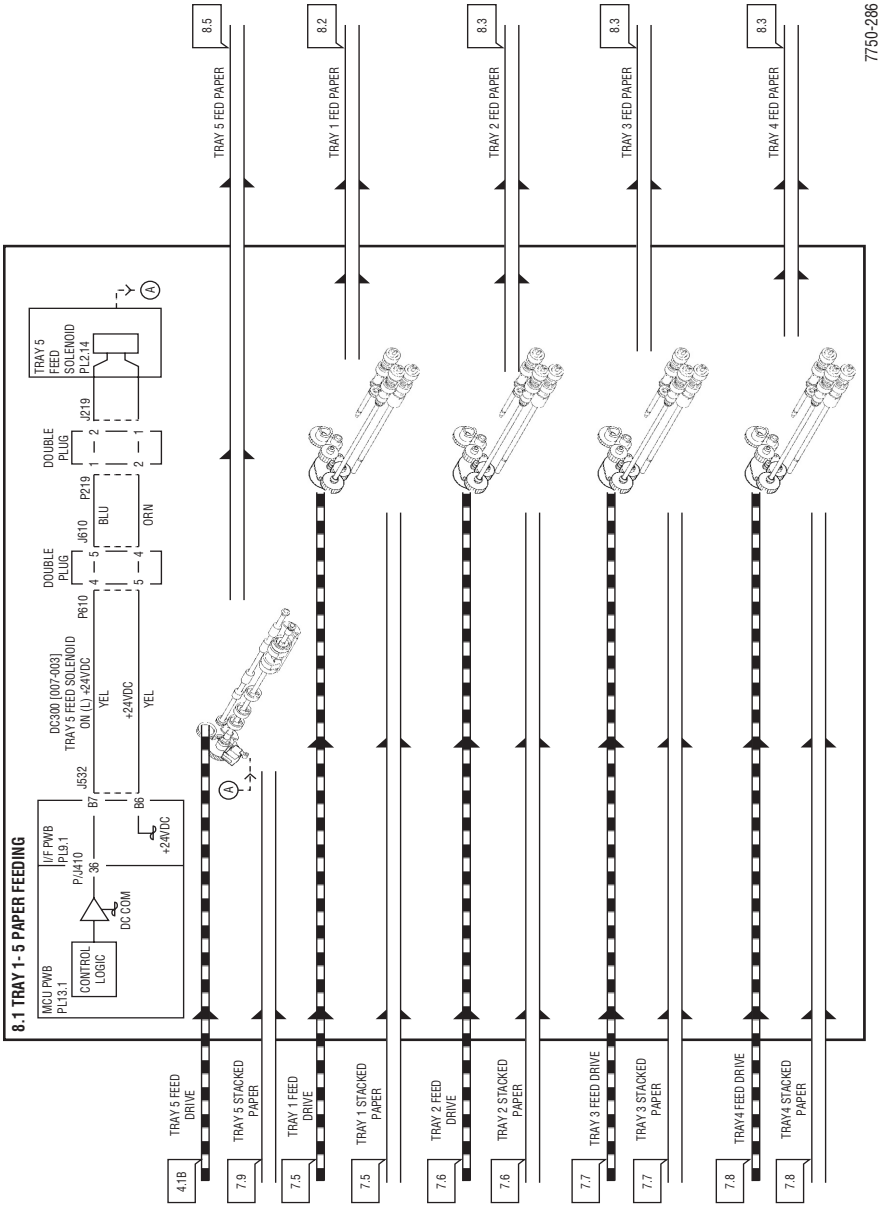


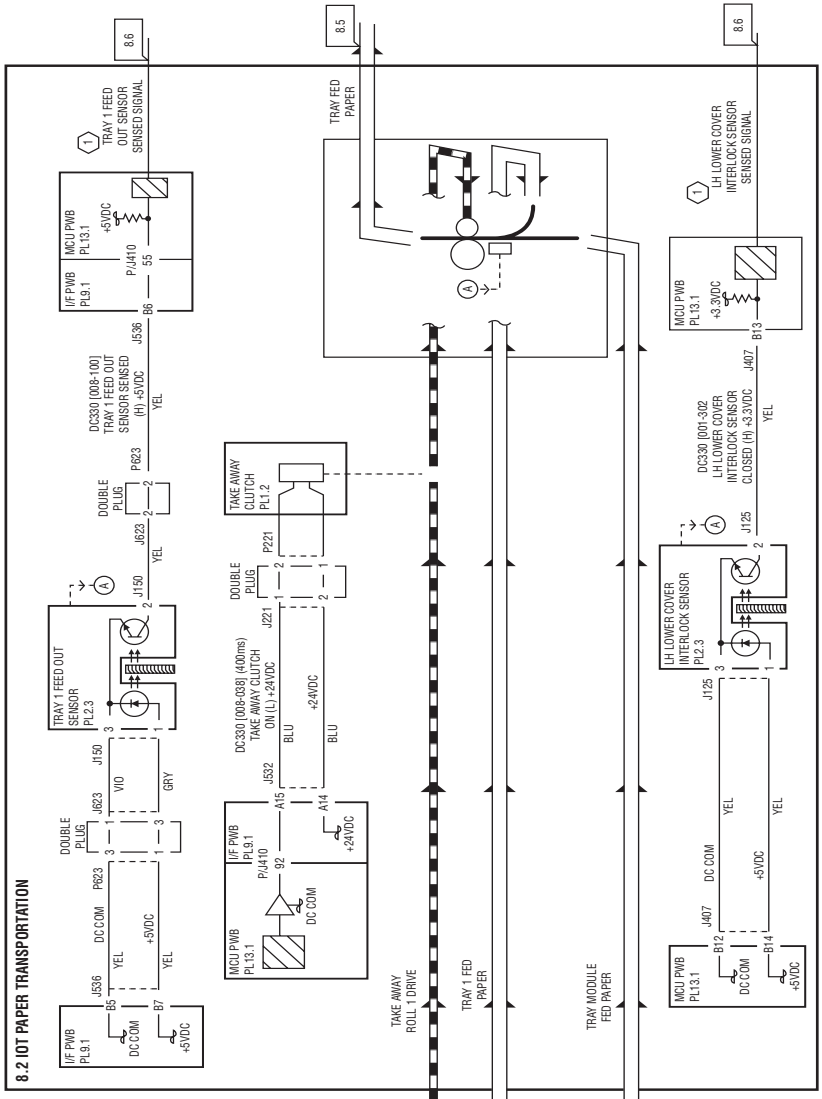


NOTE:

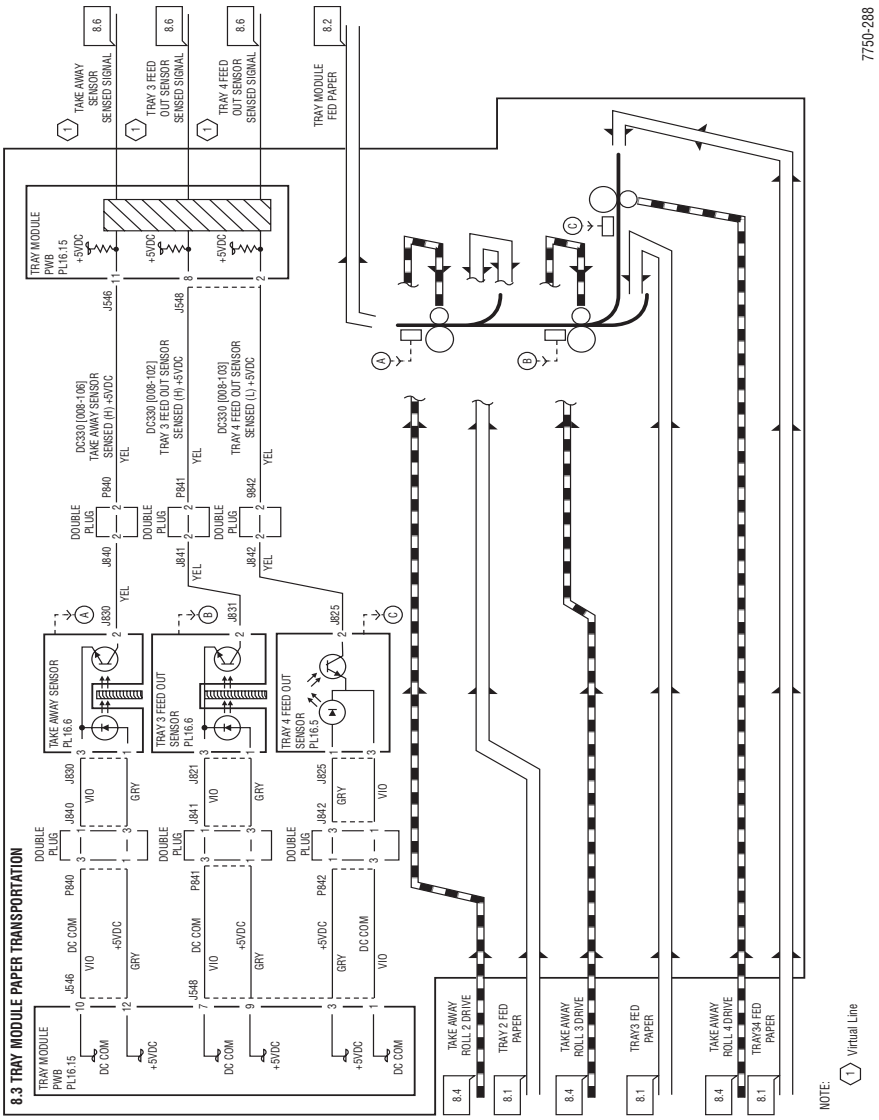
1. Paper width (size in Fast Scan direction) is sensed according to voltage corresponding to resistance of MSI Paper Size Sensor. The table shows paper sizes (widths) correspond to their respective voltages.
2. Virtual Line

7750-285

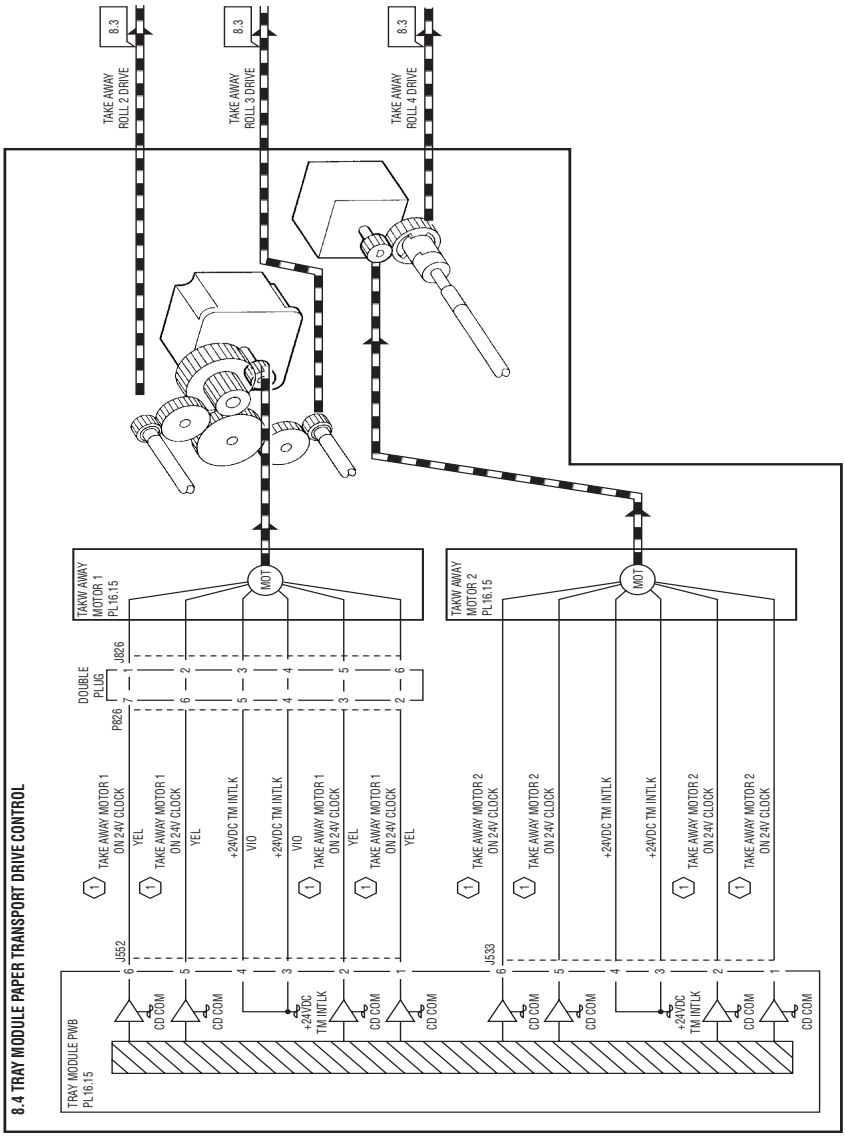

8.1 TRAY 1 - 5 PAPER FEEDING
MCU PWB
P/J13.1
I/F PWB
P/J9.1
P/J410
CONTROL LOGIC
DC COM
+24VDC
J532
B7
B6
DC300 [007-003]
TRAY 5 FEED SOLENOID ON (L) +24VDC
P610
YEL
+24VDC
YEL
DOUBLE PLUG
J610
P219
BLU
ORN
DOUBLE PLUG
J219
TRAY 5 FEED SOLENOID P1.2.14
TRAY 5 FED PAPER
TRAY 1 FED PAPER
TRAY 2 FED PAPER
TRAY 3 FED PAPER
TRAY 4 FED PAPER
TRAY 5 FEED DRIVE
TRAY 5 STACKED PAPER
TRAY 1 FEED DRIVE
TRAY 1 STACKED PAPER
TRAY 2 FEED DRIVE
TRAY 2 STACKED PAPER
TRAY 3 FEED DRIVE
TRAY 3 STACKED PAPER
TRAY 4 FEED DRIVE
TRAY 4 STACKED PAPER
7750-286

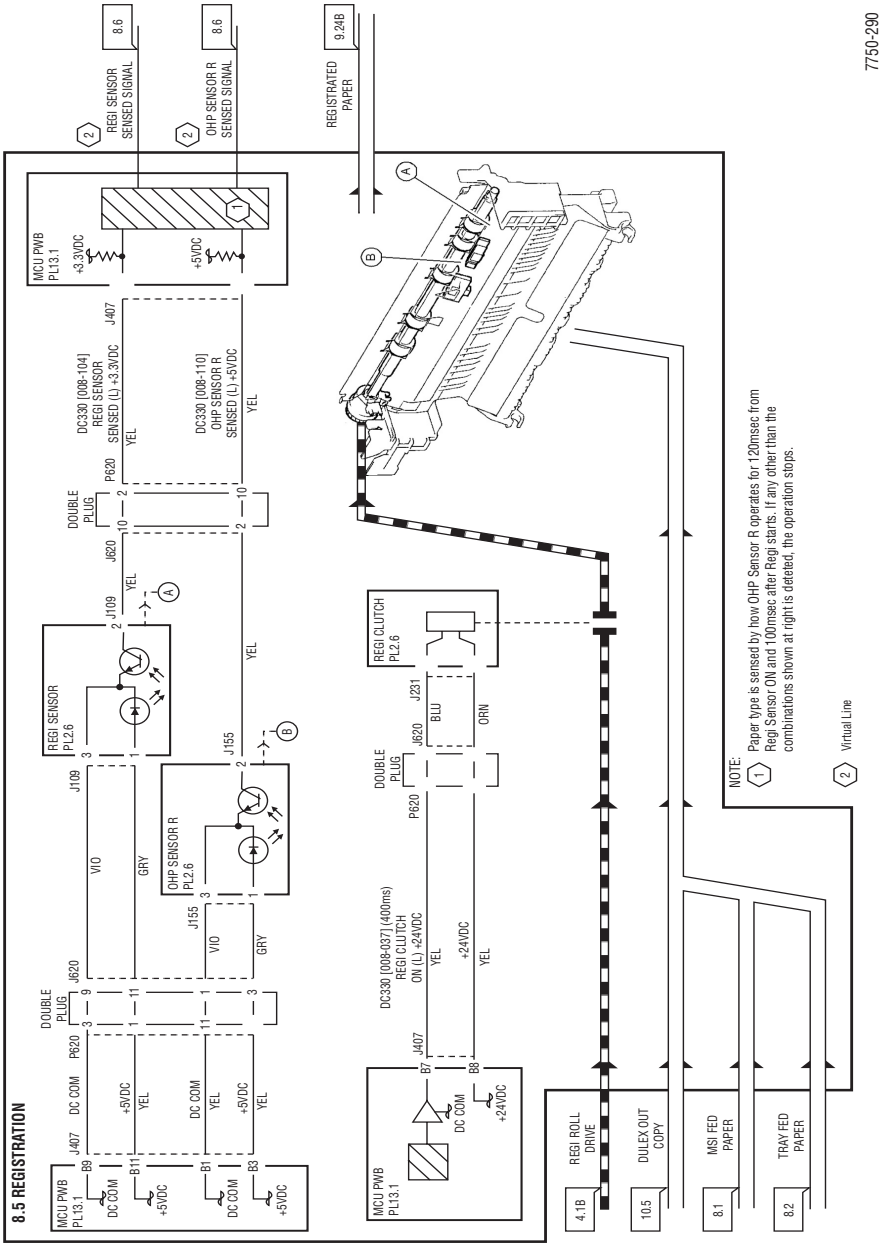

8.2 IOT PAPER TRANSPORTATION
I/F PWB PL9.1
J536
B5
DC COM
B7
+5VDC
YEL
DOUBLE PLUG
J623
P823
3
1
1
3
VIO
GRY
J150
TRAY 1 FEED OUT SENSOR PL2.3
MCU PWB PL13.1
P/J410
92
DC COM
A15
A14
+24VDC
DC330 [008-038] (400ms) TAKE AWAY CLUTCH ON (L) +24VDC
J532
BLU
J221
P221
DOUBLE PLUG
TAKE AWAY CLUTCH PL1.2
DC330 [008-100] TRAY 1 FEED OUT SENSOR SENSED (H) +5VDC
J538
B6
55
P/J410
I/F PWB PL9.1
MCU PWB PL13.1
+5VDC
TRAY 1 FEED OUT SENSOR SENSED SIGNAL
J150
J623
P823
YEL
2
2
TRAY FED PAPER
LH LOWER COVER INTERLOCK SENSOR PL2.3
DC330 [001-302] LH LOWER COVER INTERLOCK SENSOR CLOSED (H) +3.3VDC
J125
J407
YEL
MCU PWB PL13.1
+3.3VDC
B13
LH LOWER COVER INTERLOCK SENSOR SENSED SIGNAL
MCU PWB PL13.1
J407
B12
DC COM
B14
+5VDC
YEL
J125
3
1
TAKE AWAY ROLL 1 DRIVE
TRAY 1 FED PAPER
TRAY MODULE FED PAPER
4.1B
8.1
8.3
8.5
8.6
8.6
A
A
A
1
1
NOTE:
1 Virtual Line
7750-287

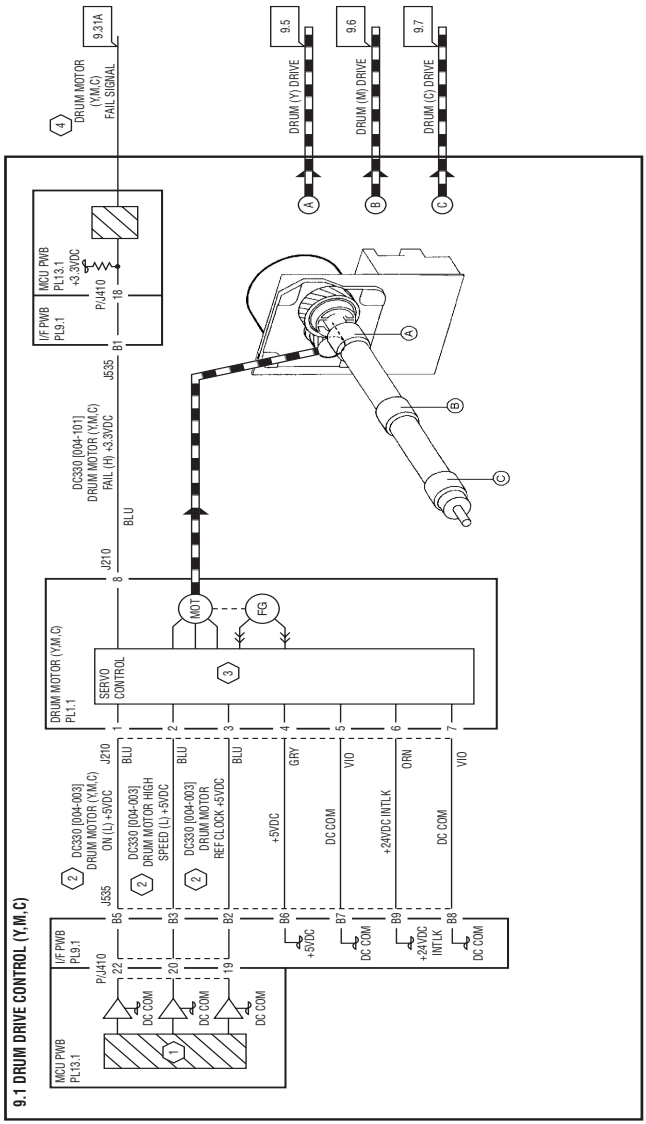
Tray Module Paper Transportation



Tray Module Paper Transport Drive Control




8.5 REGISTRATION
MCU PWB PL13.1
+3.3VDC
+5VDC
REGI SENSOR SENSED SIGNAL
OHP SENSOR R SENSED SIGNAL
REGISTRATED PAPER
DOUBLE PLUG
DC330 [008-104] REGI SENSOR SENSED (L) +3.3VDC
DC330 [008-110] OHP SENSOR R SENSED (L) +5VDC
REGI SENSOR PL2.6
OHP SENSOR R PL2.6
REGI CLUTCH PL2.6
DC330 [008-037] (400ms) REGI CLUTCH ON (L) +24VDC
DC COM
+24VDC
REGI ROLL DRIVE
DUPLEX OUT COPY
MSI FED PAPER
TRAY FED PAPER
NOTE:
Paper type is sensed by how OHP Sensor R operates for 120msec from Regi Sensor ON and 100msec after Regi starts. If any other than the combinations shown at right is detected, the operation stops.
Virtual Line
7750-290

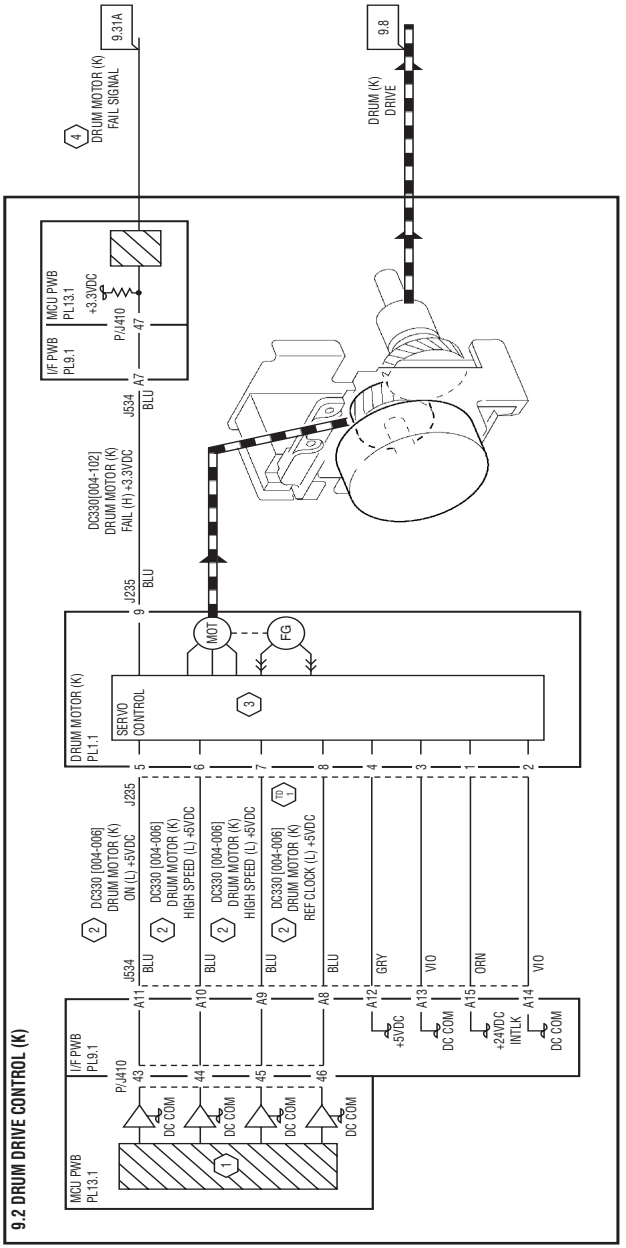


NOTES:

1. Drives at high speed for standard paper and at half speed for OHP film.
2. Remove all the drums before turning on DC300 [004-003]. Turning on Drum Motors with the drums installed may damage the Drum blades each.
3. Turning on DC300 [004-003] allows the Drum Motors to rotate at normal (high) speed and DC300 [004-011] at half speed.

   The rotation speed is controlled compared with the intenal clock
4. Virtual Line

7750-291

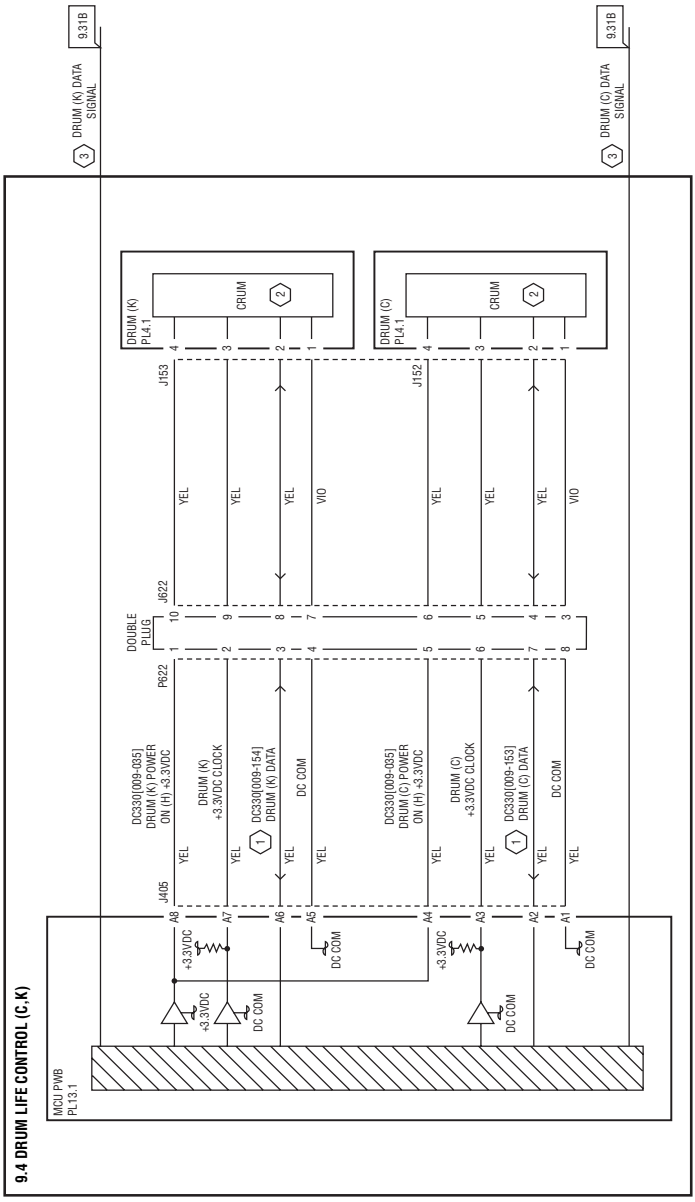


NOTES:

1. Drives at high speed for standard paper and at half speed for OHP film.
2. Remove Drum K before turning on DC300 [004-006]. Turning on Drum Motors with the drum installed may damage the Drum blade. Turning on DC300 [004-006] allows the Drum Motors to rotate at normal (high) speed and DC300 [004-009] at half speed, and DC330 [004-010] at double speed.
3. The rotation speed is controlled compared with the internal clock.
4. Virtual Line

TD 1. Test Point MCU PWB J407-B3(+) to GND (-). A frequency of approx. 1.285KHz.

7750-292

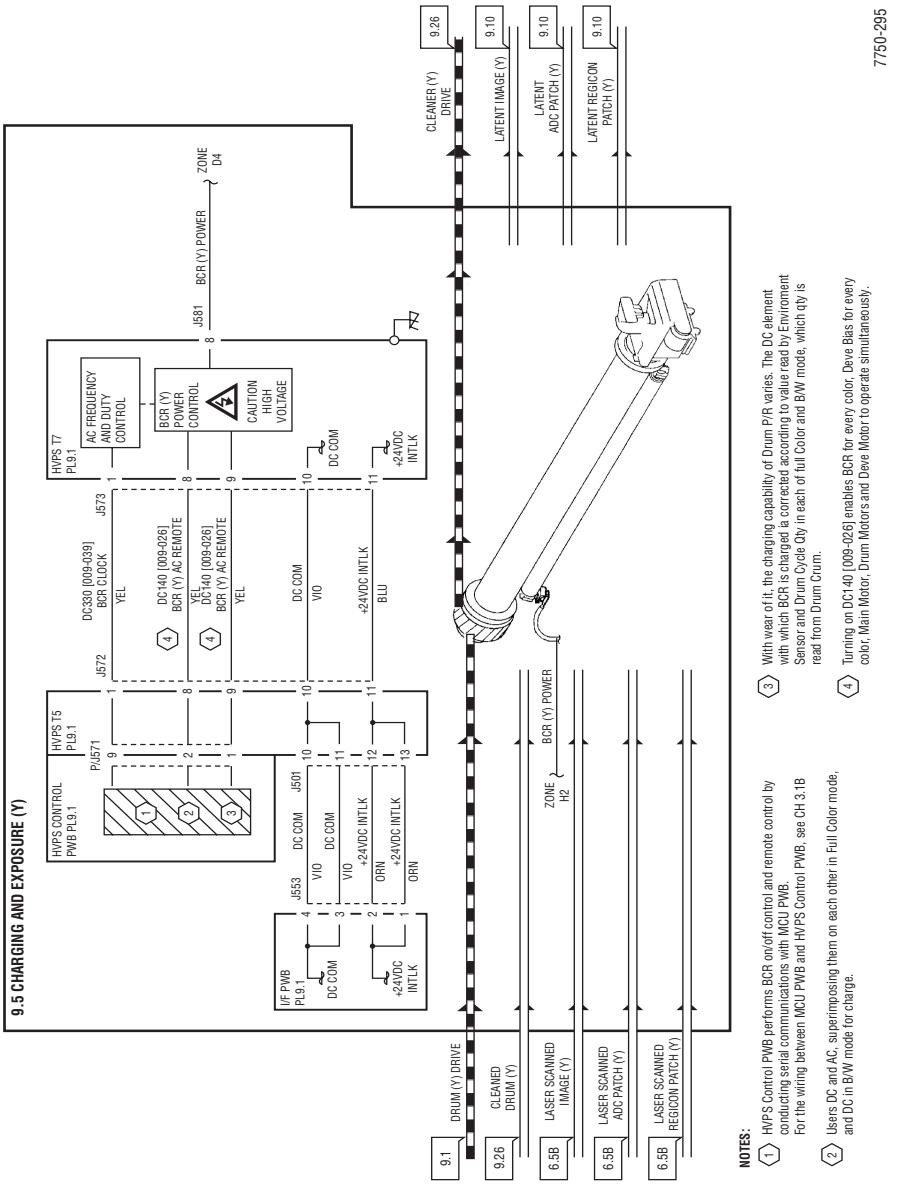


NOTE:

1. DC330 [009-153] & [009-154]: Drum Detect
   With Drum installed properly, high is displayed. However, no proper display appears for Drum Cartridge installed at factory shipment.
2. Drum Cartridge installed at factory shipment has no Crum. The life of the drum cartridge is controlled based on data in M/C NVM.
3. Virtual Line

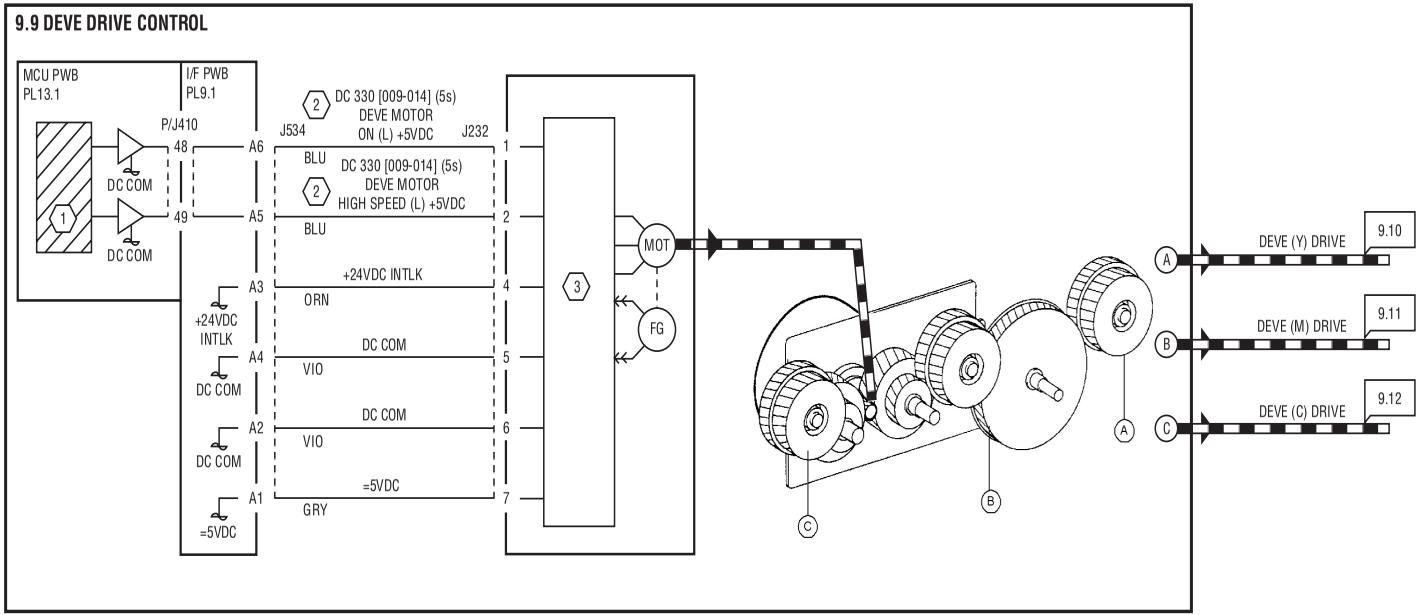
7750-294

Charge and Exposure (Y as an Example)



NOTES:

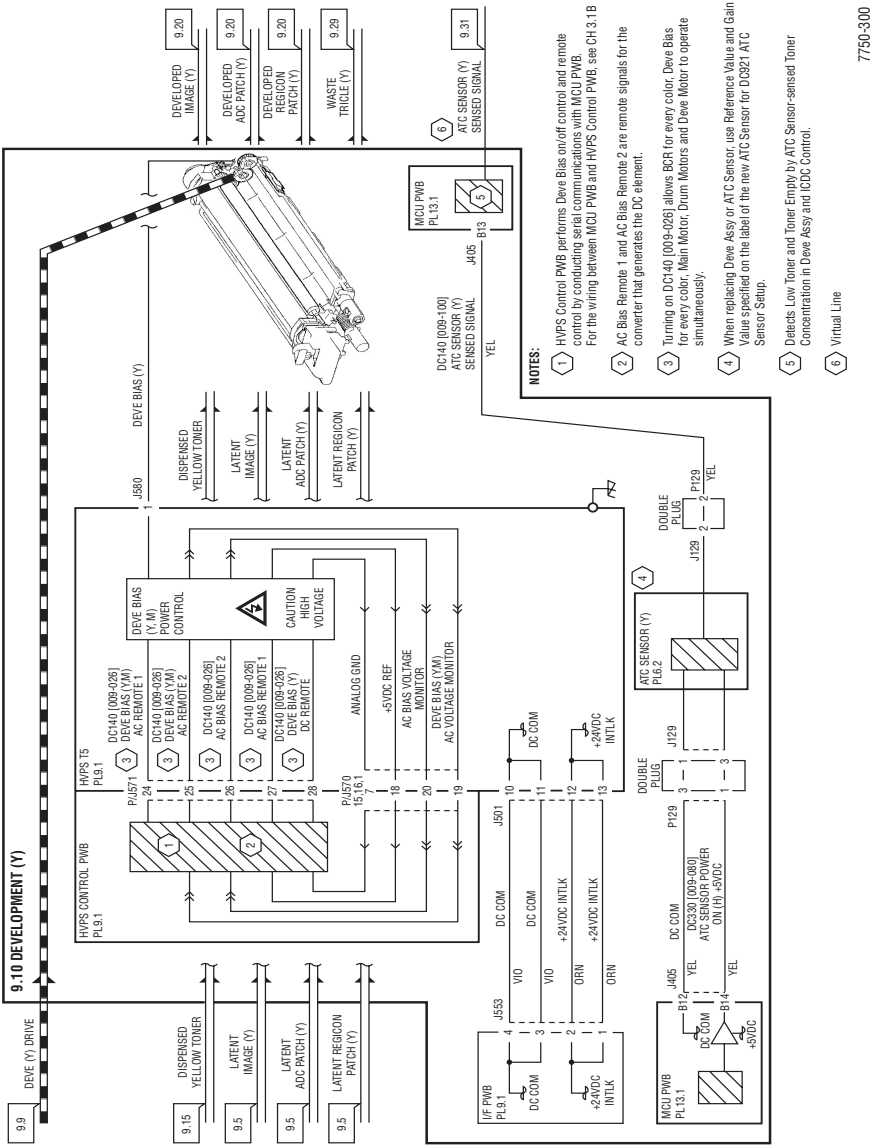
1. HVPS Control PWB performs BCR on/off control and remote control by conducting serial communications with MCU PWB.
   For the wiring between MCU PWB and HVPS Control PWB, see CH 3.1B
2. Users DC and AC, superimposing them on each other in Full Color mode, and DC in B/W mode for charge.
3. With wear of it, the charging capability of Drum P/R varies. The DC element with which BCR is charged ia corrected according to value read by Enviroment Sensor and Drum Cycle Qty in each of full Color and B/W mode, which qty is read from Drum Crum.
4. Turning on DC140 [009-026] enables BCR for every color, Deve Bias for every color, Main Motor, Drum Motors and Deve Motor to operate simultaneously.

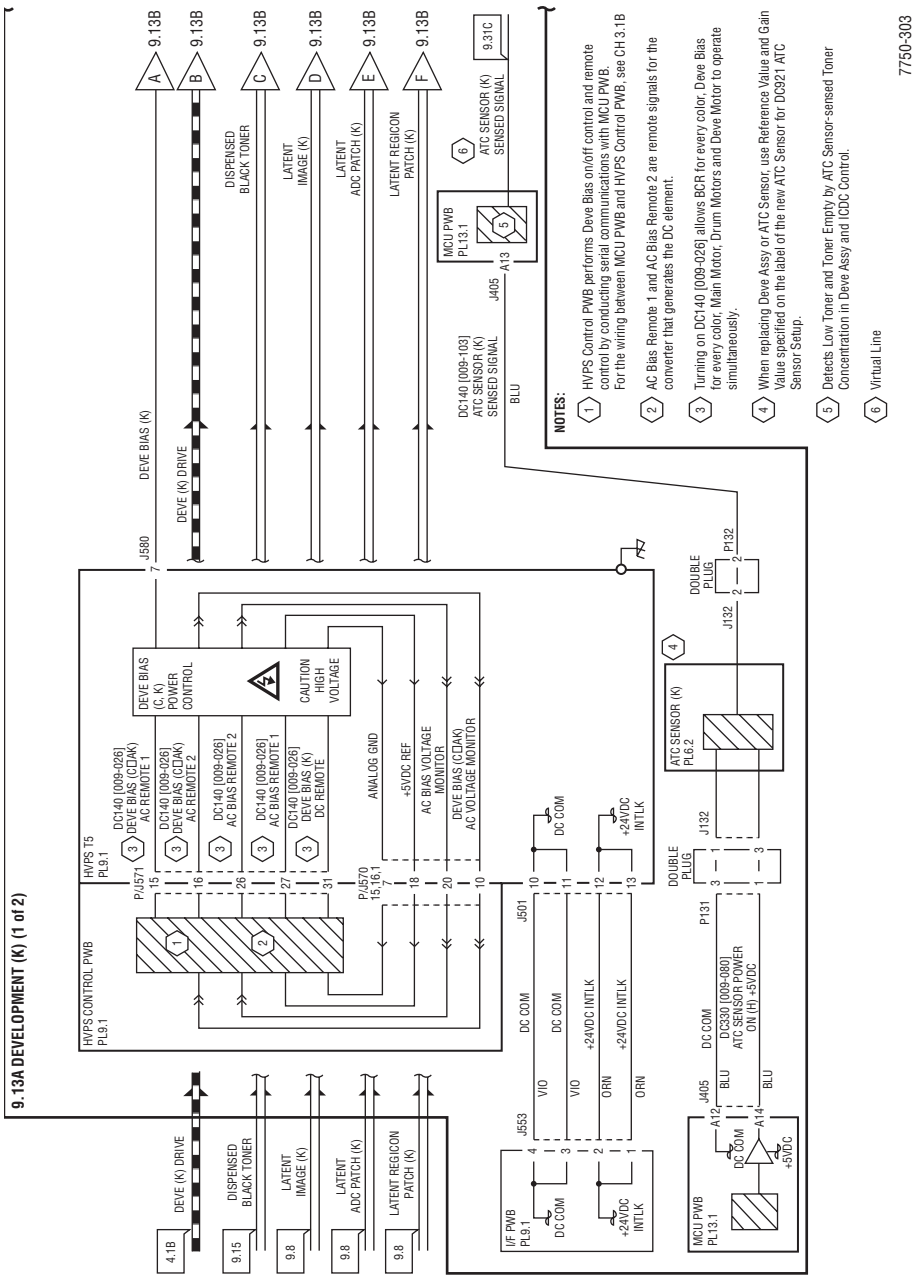


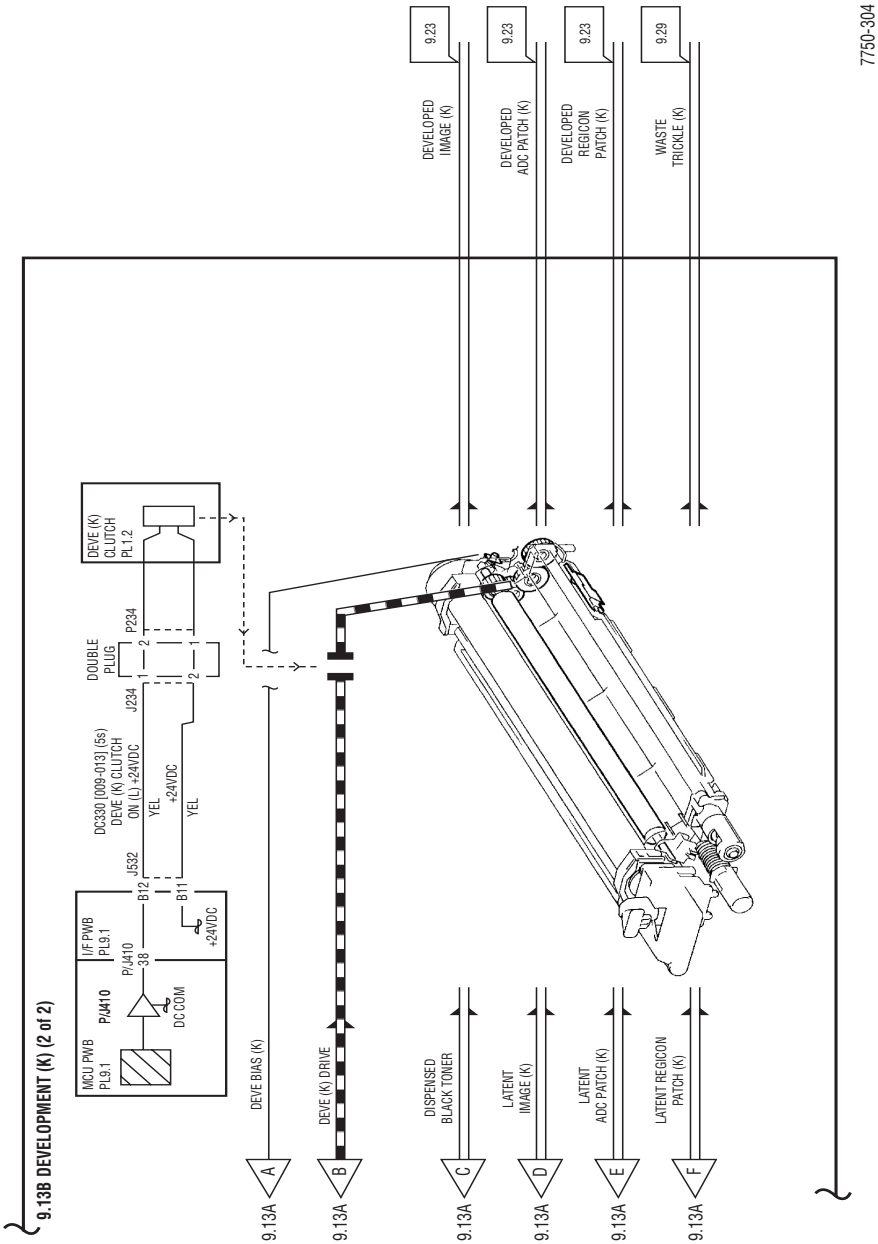
NOTES:

1. Drives at high speed for standard paper and at half speed for thick paper and OHP film.
2. Turning on DC330 [009-014] allows Deve Motor to rotate at normal (high) speed and DC330 [009-016] at half speed
3. The rotation speed is controlled compared with the internal clock.

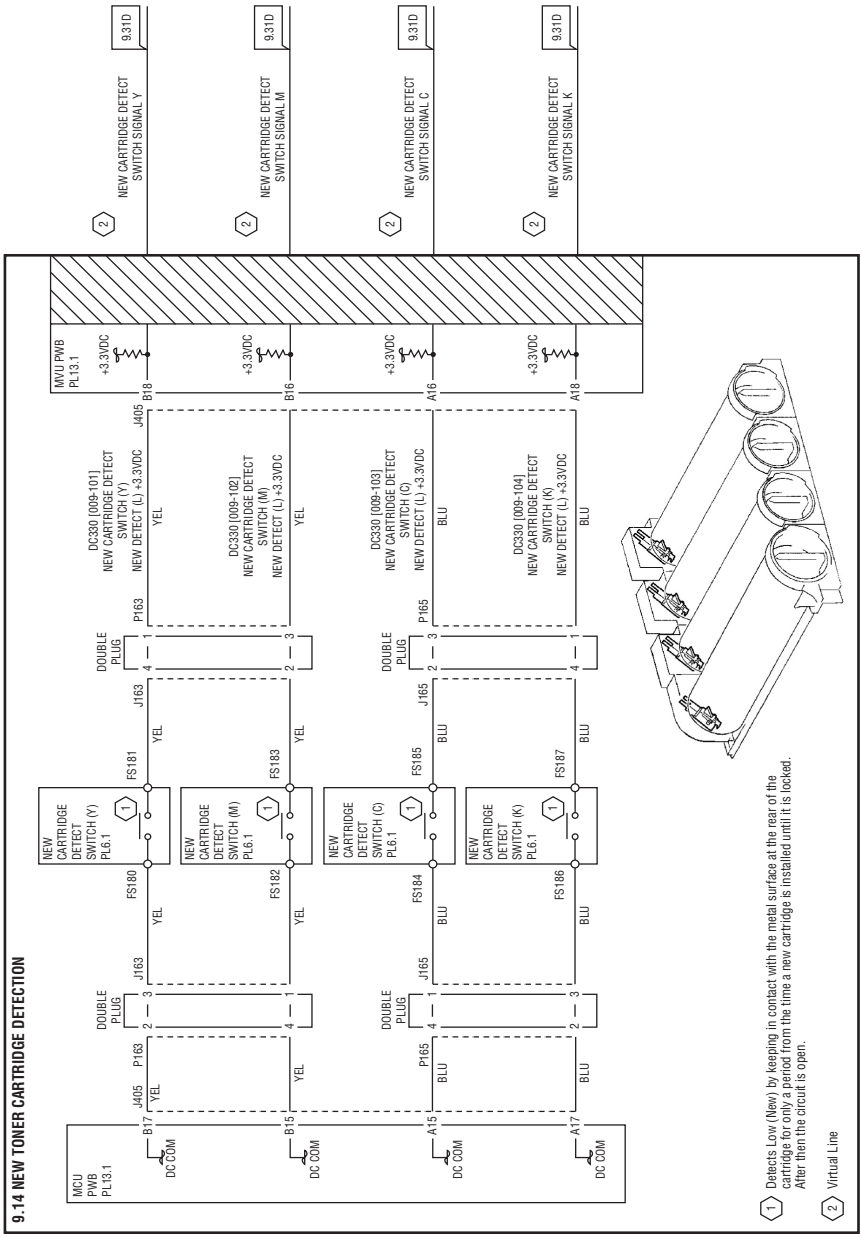
Development Y (As an Example)

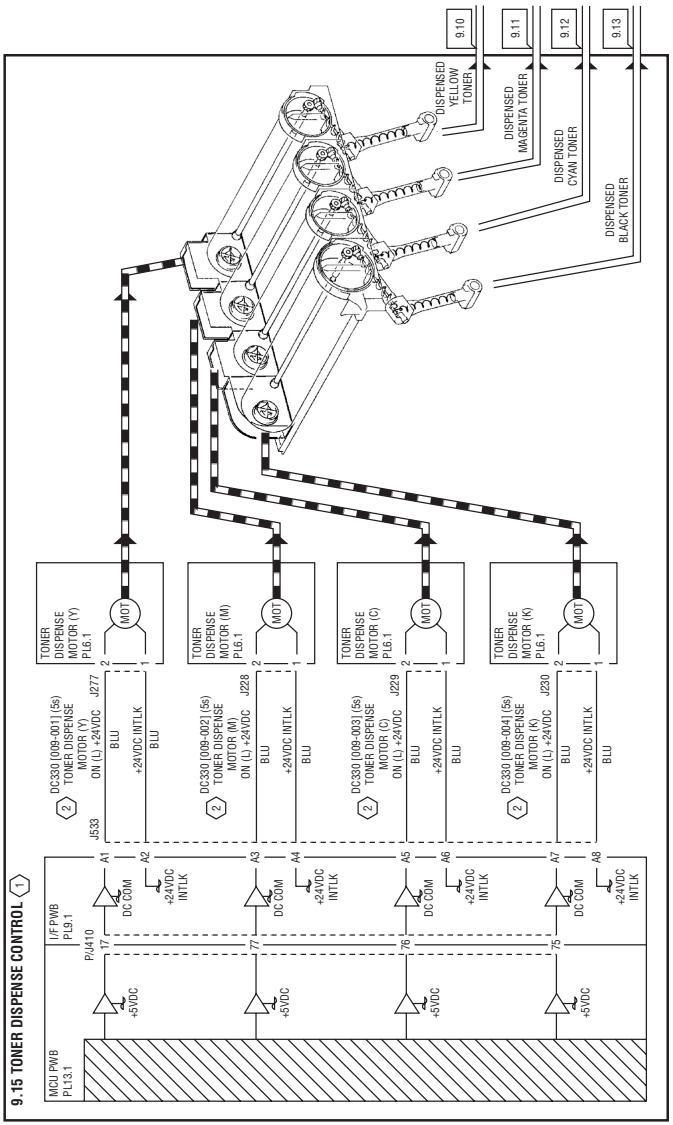

9.10 DEVELOPMENT (Y)
DEVE (Y) DRIVE
9.9
DISPENSED YELLOW TONER
9.15
LATENT IMAGE (Y)
9.5
LATENT ADC PATCH (Y)
9.5
LATENT REGIGON PATCH (Y)
9.5
HVPS CONTROL PWB PL9.1
HVPS T5 PL9.1
PJ571
PJ570
DC140 [009-026] DEVE BIAS (Y/M) AC REMOTE 1
DC140 [009-026] DEVE BIAS (Y/M) AC REMOTE 2
DC140 [009-026] AC BIAS REMOTE 2
DC140 [009-026] AC BIAS REMOTE 1
DC140 [009-026] DEVE BIAS (Y) DC REMOTE
DEVE BIAS (Y, M) POWER CONTROL
CAUTION HIGH VOLTAGE
ANALOG GND
+5VDC REF
AC BIAS VOLTAGE MONITOR
DEVE BIAS (Y/M) AC VOLTAGE MONITOR
J580
DEVE BIAS (Y)
DISPENSED YELLOW TONER
LATENT IMAGE (Y)
LATENT ADC PATCH (Y)
LATENT REGIGON PATCH (Y)
DEVELOPED IMAGE (Y)
9.20
DEVELOPED ADC PATCH (Y)
9.20
DEVELOPED REGIGON PATCH (Y)
9.20
WASTE TRICLE (Y)
9.29
MCU PWB PL13.1
J405
B13
DC140 [009-100] ATC SENSOR (Y) SENSED SIGNAL
YEL
ATC SENSOR (Y) SENSED SIGNAL
9.31
J501
DC COM
+24VDC INTLK
J553
I/F PWB PL9.1
MCU PWB PL13.1
B12
B14
+5VDC
P129
J129
DOUBLE PLUG
ATC SENSOR (Y) PL8.2
DC330 [009-080] ATC SENSOR POWER ON (H) +5VDC
NOTES:
1 HVPS Control PWB performs Deve Bias on/off control and remote control by conducting serial communications with MCU PWB. For the wiring between MCU PWB and HVPS Control PWB, see CH 3.1B
2 AC Bias Remote 1 and AC Bias Remote 2 are remote signals for the converter that generates the DC element.
3 Turning on DC140 [009-026] allows BCR for every color, Deve Bias for every color, Main Motor, Drum Motors and Deve Motor to operate simultaneously.
4 When replacing Deve Assy or ATC Sensor, use Reference Value and Gain Value specified on the label of the new ATC Sensor for DS921 ATC Sensor Setup.
5 Detects Low Toner and Toner Empty by ATC Sensor-sensed Toner Concentration in Deve Assy and IODC Control.
6 Virtual Line
7750-300


9.13A DEVELOPMENT (K) (1 of 2)
HV/PS CONTROL PWB
PL9.1
HV/PS T5
PL9.1
P/J571
P/J570
DC140 [009-026]
DEVE BIAS (C/DAK)
AC REMOTE 1
DC140 [009-026]
DEVE BIAS (C/DAK)
AC REMOTE 2
DC140 [009-026]
AC BIAS REMOTE 2
DC140 [009-026]
AC BIAS REMOTE 1
DC140 [009-026]
DEVE BIAS (K)
DC REMOTE
DEVE BIAS
(C, K)
POWER
CONTROL
CAUTION
HIGH
VOLTAGE
ANALOG GND
+5VDC REF
AC BIAS VOLTAGE
MONITOR
DEVE BIAS (C/DAK)
AC VOLTAGE MONITOR
J580
DEVE BIAS (K)
DEVE (K) DRIVE
DISPENSED
BLACK TONER
LATENT
IMAGE (K)
LATENT
ADC PATCH (K)
LATENT REGICON
PATCH (K)
ATC SENSOR (K)
SENSED SIGNAL
9.31C
MCU PWB
PL13.1
J405
A13
DC140 [009-103]
ATC SENSOR (K)
SENSED SIGNAL
BLU
DOUBLE
PLUG
P132
J132
ATC SENSOR (K)
PL6.2
4
DOUBLE
PLUG
P131
J132
I/F PWB
PL9.1
J553
J501
DC COM
VIO
+24VDC INTLK
ORN
MCU PWB
PL13.1
A12
A14
DC COM
+5VDC
J405
BLU
DC330 [009-080]
ATC SENSOR POWER
ON (H) +5VDC
4.1B
9.15
9.8
9.8
9.8
9.13B
9.13C
9.13D
9.13E
9.13F
NOTES:
1 HV/PS Control PWB performs Deve Bias on/off control and remote control by conducting serial communications with MCU PWB. For the wiring between MCU PWB and HV/PS Control PWB, see CH 3.1B
2 AC Bias Remote 1 and AC Bias Remote 2 are remote signals for the converter that generates the DC element.
3 Turning on DC140 [009-026] allows BCR for every color, Deve Bias for every color, Main Motor, Drum Motors and Deve Motor to operate simultaneously.
4 When replacing Deve Assy or ATC Sensor, use Reference Value and Gain Value specified on the label of the new ATC Sensor for DC921 ATC Sensor Setup.
5 Detects Low Toner and Toner Empty by ATC Sensor-sensed Toner Concentration in Deve Assy and ICDC Control.
6 Virtual Line
7750-303


9.13B DEVELOPMENT (K) (2 of 2)
MCU PWB PL9.1
P/J410
3B
DC COM
I/F PWB PL9.1
B12
J532
B11
+24VDC
DC330 [009-013] (5s) DEVE (K) CLUTCH ON (L) +24VDC
YEL
+24VDC
YEL
J234
DOUBLE PLUG
P234
DEVE (K) CLUTCH PL1.2
DEVE BIAS (K)
DEVE (K) DRIVE
DISPENSED BLACK TONER
LATENT IMAGE (K)
LATENT ADC PATCH (K)
LATENT REGICON PATCH (K)
A
B
C
D
E
F
9.13A
9.13A
9.13A
9.13A
9.13A
9.13A
DEVELOPED IMAGE (K)
DEVELOPED ADC PATCH (K)
DEVELOPED REGICON PATCH (K)
WASTE TRICKLE (K)
9.23
9.23
9.23
9.29
7750-304

New Toner Cartridge Detection


9.14 NEW TONER CARTRIDGE DETECTION
MCU PWB PL13.1
B17
B15
A15
A17
DC COM
J405
P163
YEL
BLU
DOUBLE PLUG
J163
J165
FS180
FS181
FS182
FS183
FS184
FS185
FS186
FS187
NEW CARTRIDGE DETECT SWITCH (Y) PL6.1
NEW CARTRIDGE DETECT SWITCH (M) PL6.1
NEW CARTRIDGE DETECT SWITCH (C) PL6.1
NEW CARTRIDGE DETECT SWITCH (K) PL6.1
DC330 [009-101] NEW CARTRIDGE DETECT SWITCH (Y) NEW DETECT (L) +3.3VDC
DC330 [009-102] NEW CARTRIDGE DETECT SWITCH (M) NEW DETECT (L) +3.3VDC
DC330 [009-103] NEW CARTRIDGE DETECT SWITCH (C) NEW DETECT (L) +3.3VDC
DC330 [009-104] NEW CARTRIDGE DETECT SWITCH (K) NEW DETECT (L) +3.3VDC
MVU PWB PL13.1
+3.3VDC
B18
B16
A16
A18
NEW CARTRIDGE DETECT SWITCH SIGNAL Y
NEW CARTRIDGE DETECT SWITCH SIGNAL M
NEW CARTRIDGE DETECT SWITCH SIGNAL C
NEW CARTRIDGE DETECT SWITCH SIGNAL K
9.31D
1 Detects Low (New) by keeping in contact with the metal surface at the rear of the cartridge for only a period from the time a new cartridge is installed until it is locked. After then the circuit is open.
2 Virtual Line
7750-305



NOTE:

(1) This model has no Low Toner Sensor.
Low Toner/Toner Empty is detected by ATC Sensor-sensed Toner Concentration in Deve Assy and ICDC Control. For the ATC Sensor wiring, see CH9-9.13.

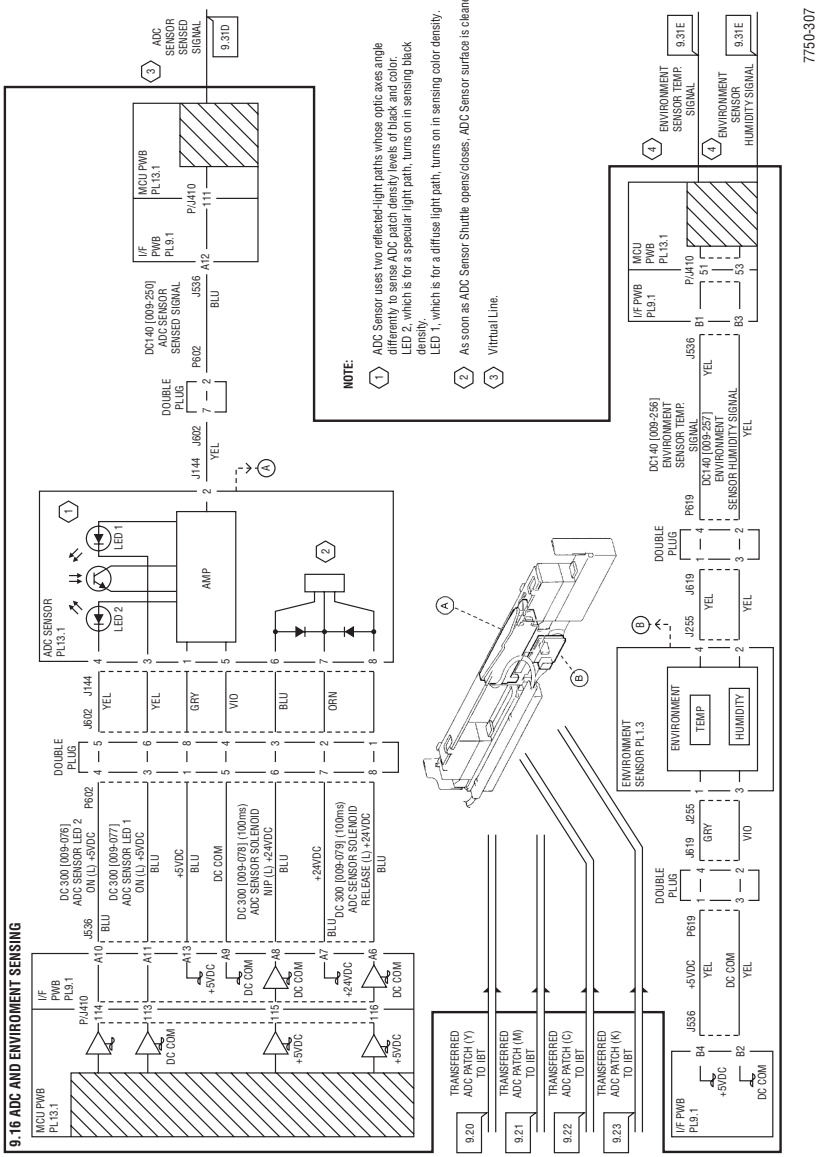
Toner Density Control
ICDC Control estimates toner consumption qty for Dispense Control. Dispense Qty is corrected according to ATC Sensor-sensed Toner Concentration in Deve Assy.

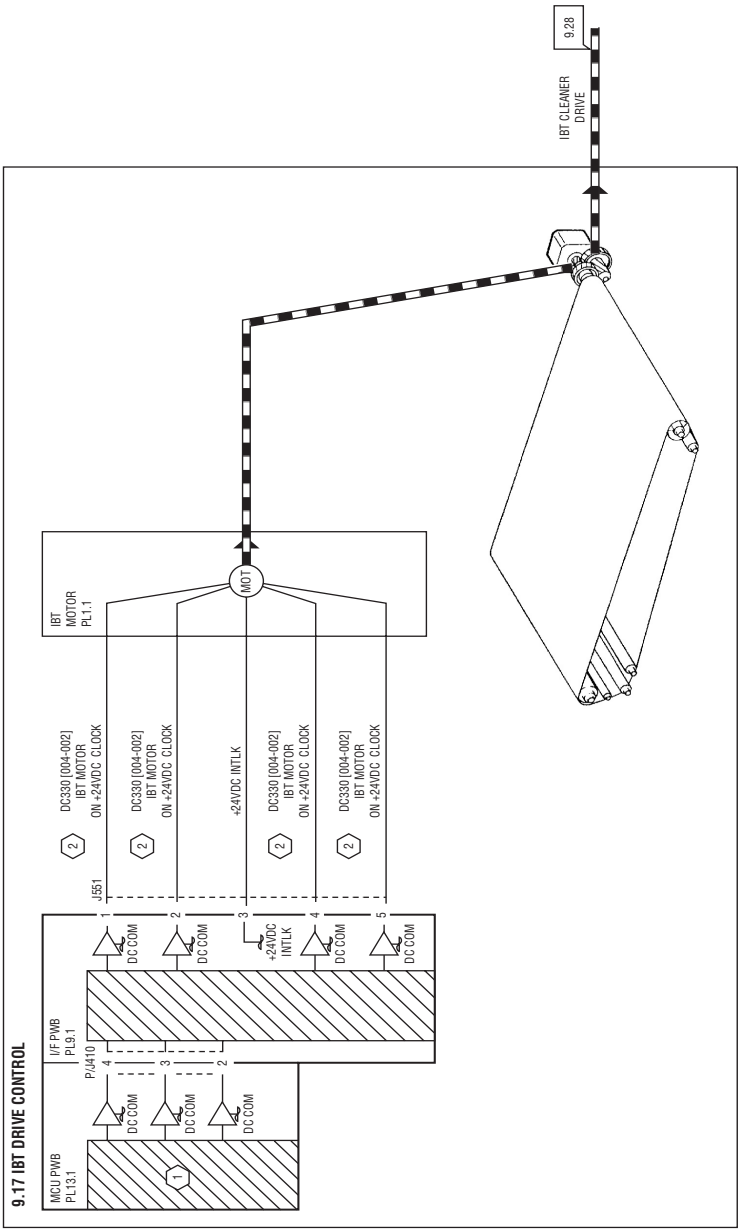
Toner Empty Detection

When ATC Sensor-sensed Toner Concentration in Deve Assy reduces below the spec, Low Toner is detected.
When a total ICDC value exceeds the spec after the detection of Low Toner, Toner Empty is detected.

(2) Never repeat turning on DC330 [009-001] - [009-004]
Turning on Toner Dispense Motor repeatedly causes toner blocking in Deve Assy.

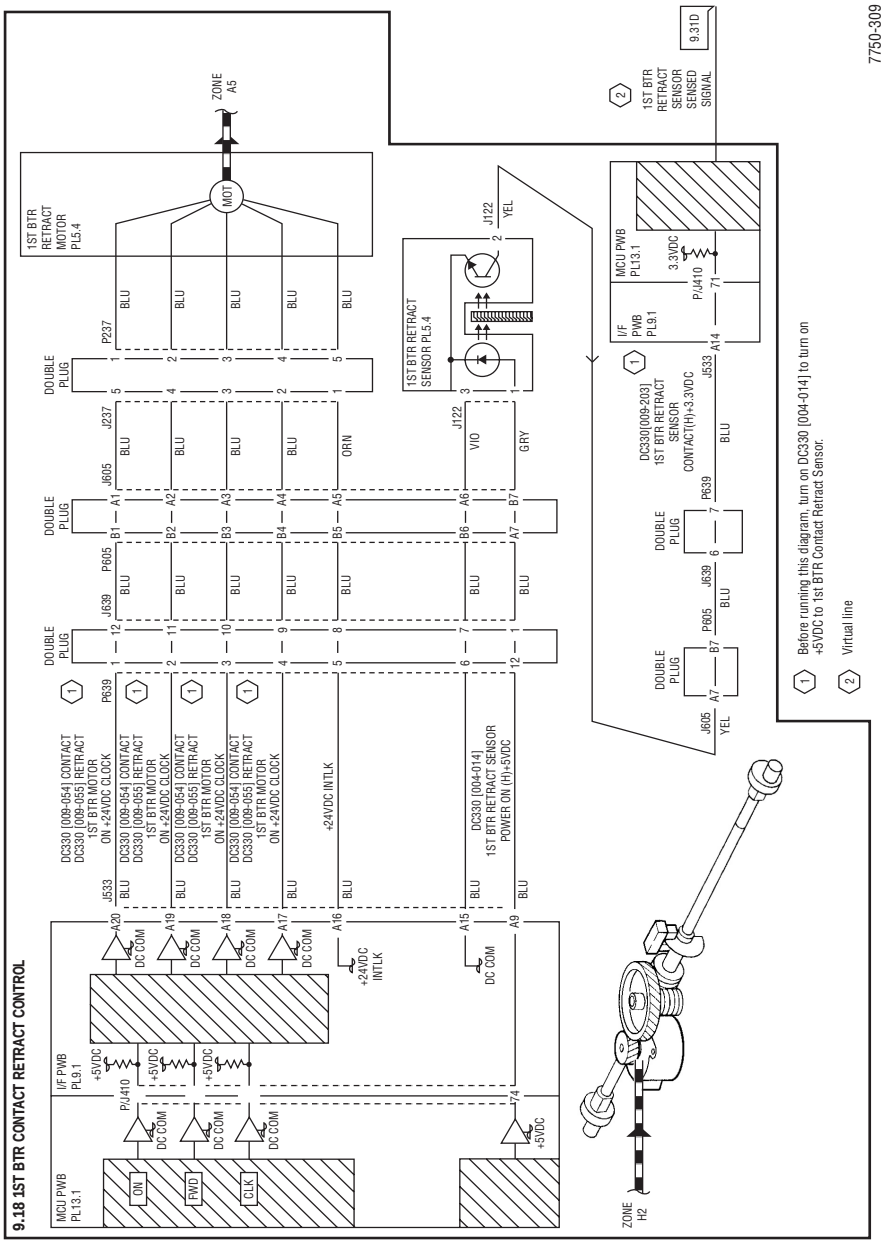
7750-306


9.16 ADC AND ENVIROMENT SENSING
NOTE:
1 ADC Sensor uses two reflected-light paths whose optic axes angle differently to sense ADC patch density levels of black and color. LED 2, which is for a specular light path, turns on in sensing black density. LED 1, which is for a diffuse light path, turns on in sensing color density.
2 As soon as ADC Sensor Shuttle opens/closes, ADC Sensor surface is cleaned.
3 Virtrual Line.
7750-307


9.17 IBT DRIVE CONTROL
MCU PWB
P/J13.1
V/F PWB
P/L9.1
P/J410
J551
DC COM
+24VDC INTLK
DC330 [004-002]
IBT MOTOR
ON +24VDC CLOCK
+24VDC INTLK
IBT
MOTOR
P/J1.1
MOT
IBT CLEANER
DRIVE
9.28
NOTE:
1 Drives at high speed for standard paper and at half speed for OHP film.
1 Lift up IBT Assy before turning on DC3300 [004-002]. Turning on IBT motor without lifting it up may damage IBT.
Turning DC330 [004-002] allows IBT Motor to rotate at normal speed
DC330 [004-012] at half speed and DC330 [004-013] at double speed.

7750-308

1st BTR Contact Retract Control



Accumulator Belt Assembly Positioning

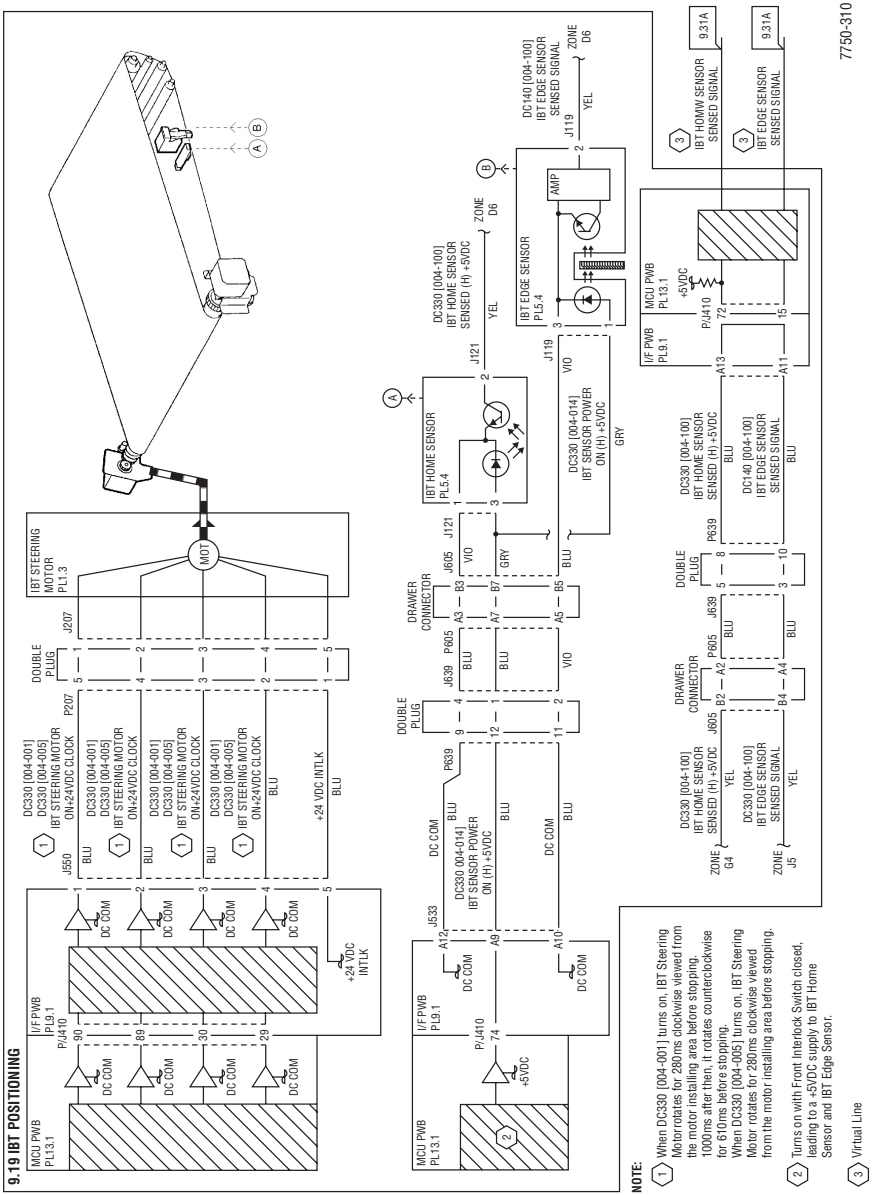
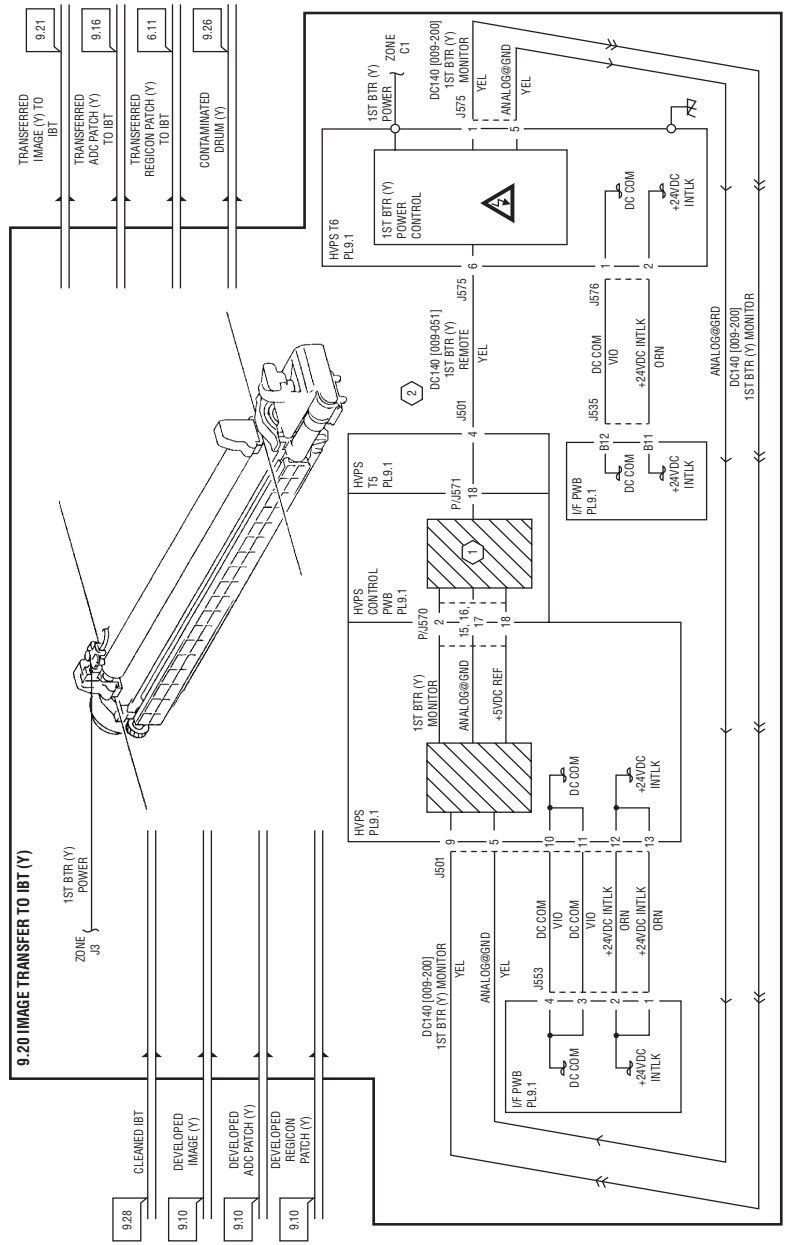
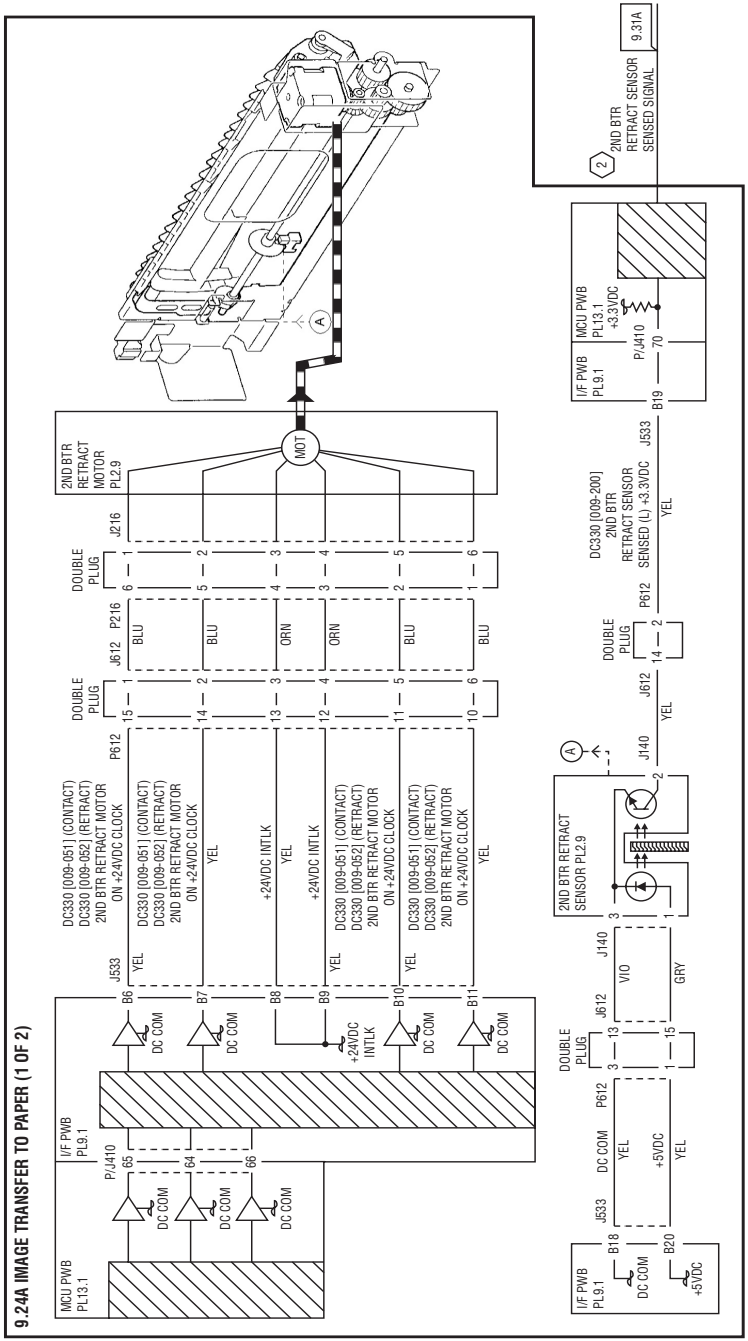
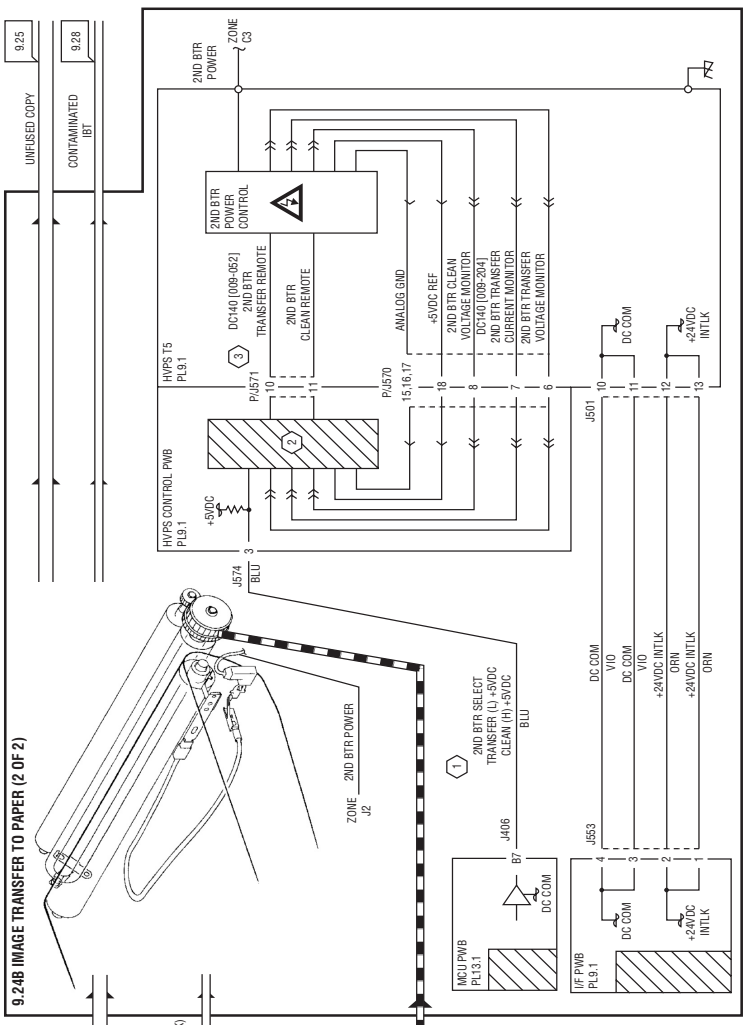

9.19 IBT POSITIONING
MCU PWB PL13.1
I/F PWB PL9.1
P/J410
DC COM
+5VDC
+24 VDC INTLK
DC330 [004-001] DC330 [004-005] IBT STEERING MOTOR ON-24VDC CLOCK
DC330 [004-014] IBT SENSOR POWER ON (H) +5VDC
DC330 [004-100] IBT HOME SENSOR SENSED (H) +5VDC
DC140 [004-100] IBT EDGE SENSOR SENSED SIGNAL
DC330 [004-100] IBT HOME SENSOR SENSED (H) +5VDC
IBT STEERING MOTOR P/J1.3
IBT HOME SENSOR PL5.4
IBT EDGE SENSOR PL5.4
DRAWER CONNECTOR
DOUBLE PLUG
AMP
ZONE D6
IBT HOMW SENSOR SENSED SIGNAL
IBT EDGE SENSOR SENSED SIGNAL
9.31A
7750-310
NOTE:
1 When DC330 [004-001] turns on, IBT Steering Motor rotates for 280ms clockwise viewed from the motor installing area before stopping. 1000ms after then, it rotates counterclockwise for 610ms before stopping. When DC330 [004-005] turns on, IBT Steering Motor rotates for 280ms clockwise viewed from the motor installing area before stopping.
2 Turns on with Front Interlock Switch closed, leading to a +5VDC supply to IBT Home Sensor and IBT Edge Sensor.
3 Virtual Line

Image Transfer to Accumulator Belt Y (As an Example)



7750-311

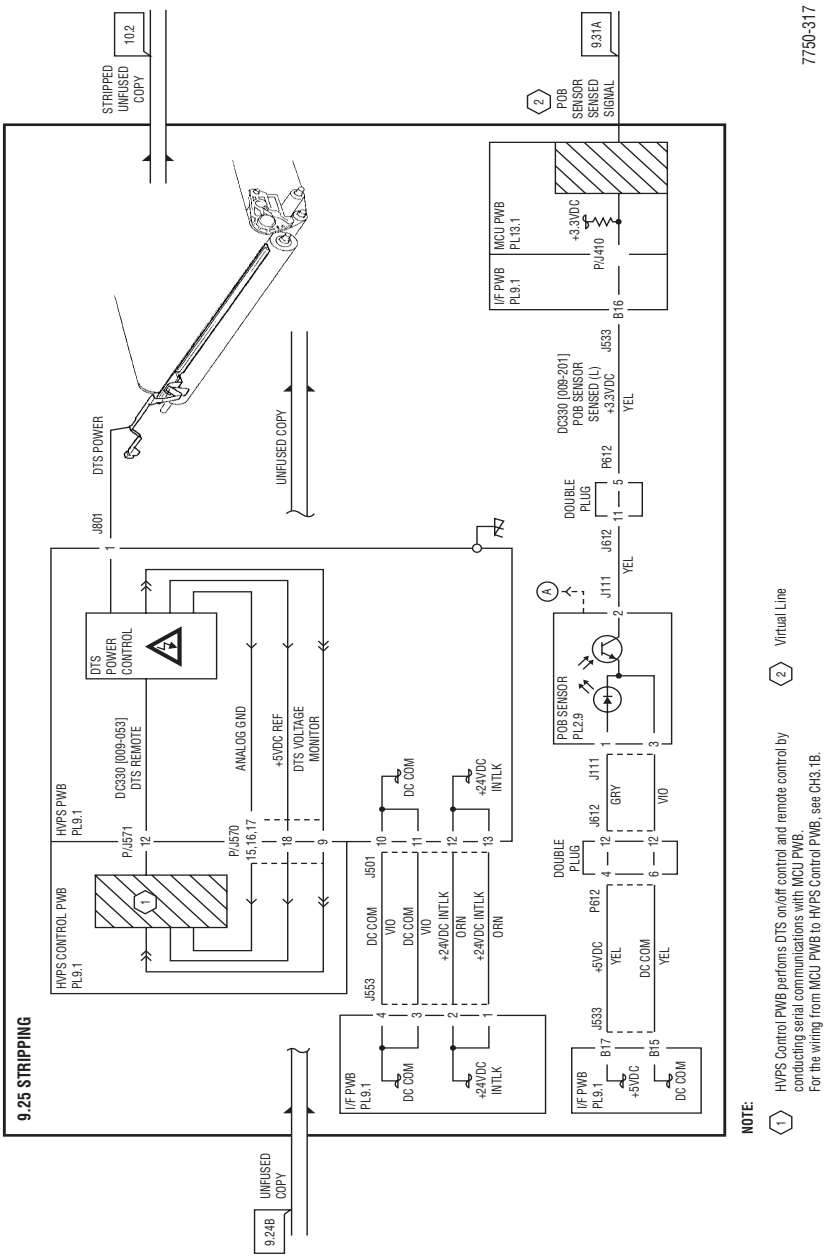

9.24A IMAGE TRANSFER TO PAPER (1 OF 2)
MCU PWB PL13.1
I/F PWB PL9.1
P/J410
DC COM
+5VDC
+24VDC INTLK
DOUBLE PLUG
J533
J612
P612
J140
P216
J216
2ND BTR RETRACT MOTOR PL2.9
MOT
2ND BTR RETRACT SENSOR PL2.9
DC330 [009-051] (CONTACT)
DC330 [009-052] (RETRACT)
2ND BTR RETRACT MOTOR ON +24VDC CLOCK
+24VDC INTLK
DC330 [009-200] 2ND BTR RETRACT SENSOR SENSED (L) +3.3VDC
MCU PWB PL13.1 +3.3VDC
2ND BTR RETRACT SENSOR SENSED SIGNAL
9.31A
YEL
ORN
BLU
VIO
GRY
NOTE:
1 2nd BTR contacts at power on, and retracts 5hrs (adjustable in NVM) after power off or IBT stops or when M/C shuts down.
1 Virtual Line
7750-315



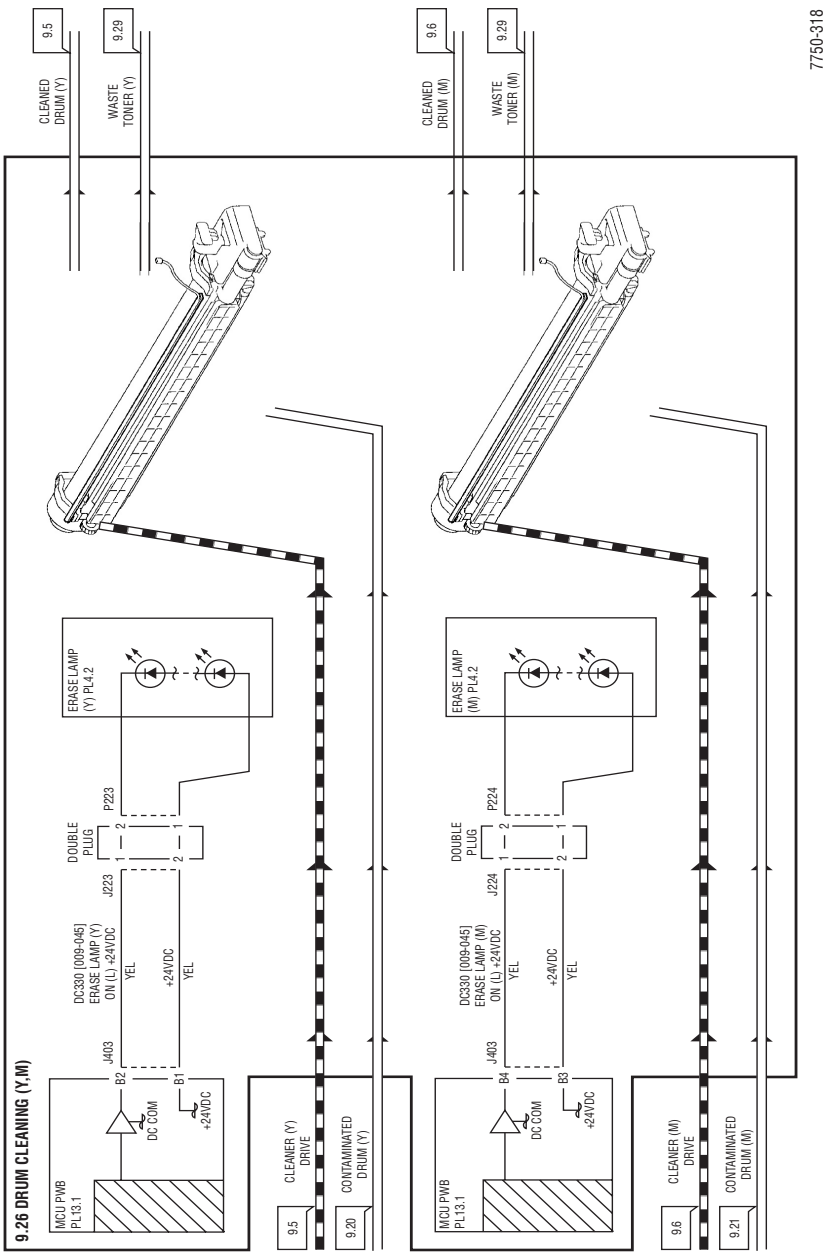
NOTE:

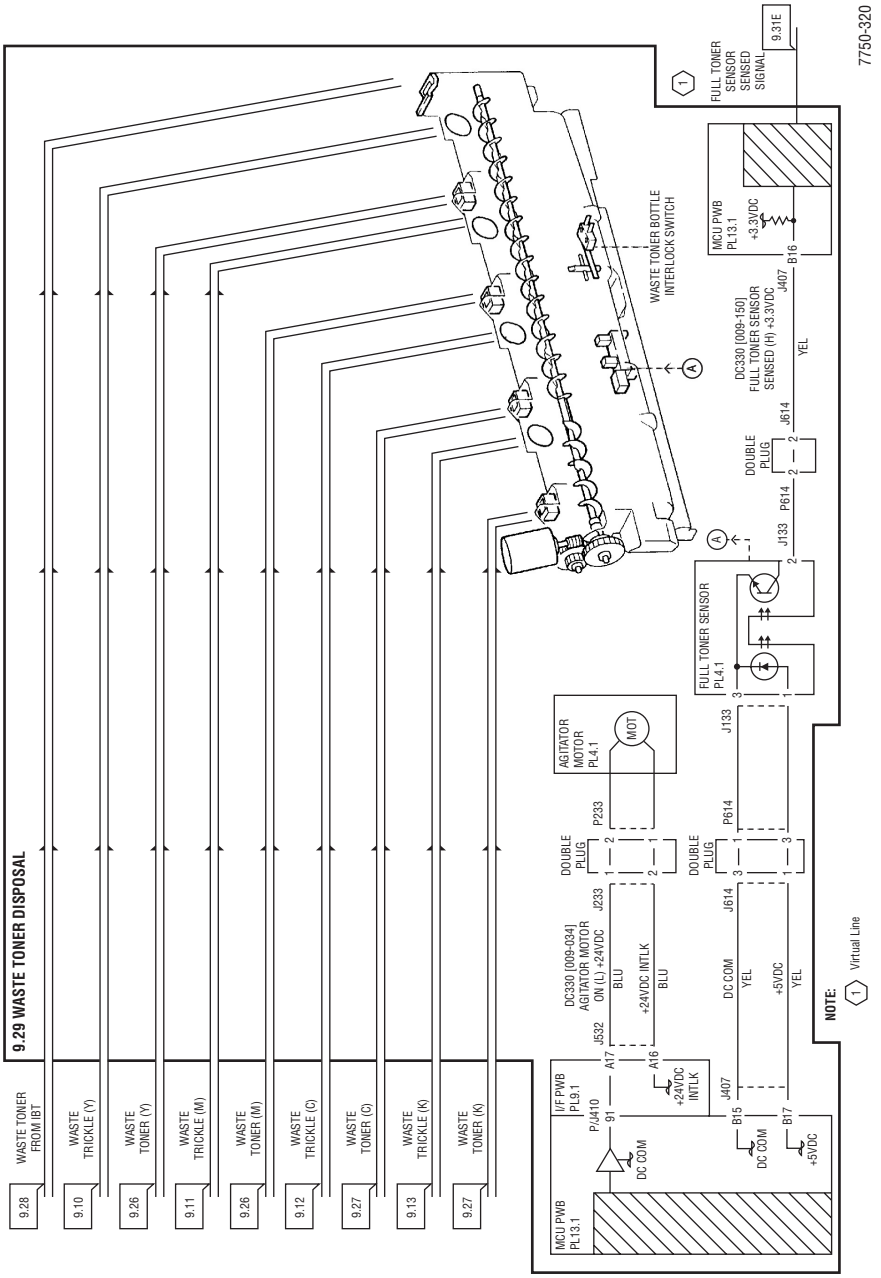
1. 2nd BTR Bias switching
   For the image area on IBT, 2nd BTR is charged with Transfer Bias (negative) so that toner on IBT will be transferred to paper. (Transfer)
   For the non-image area on IBT, 2nd BTR is charged with Reverse Bias (positive) so that toner will be prevented from attaching to the roll. (Clean)
2. HVPS Control PWB performs 2nd BTR on/off control and remote control by conducting serial communications with MCU PWB.
   For the wiring from MCU PWB to HVPS Control PWB, see CH3.1B
3. Turning on DC140 [009-052] allows Transfer Bias to be output.

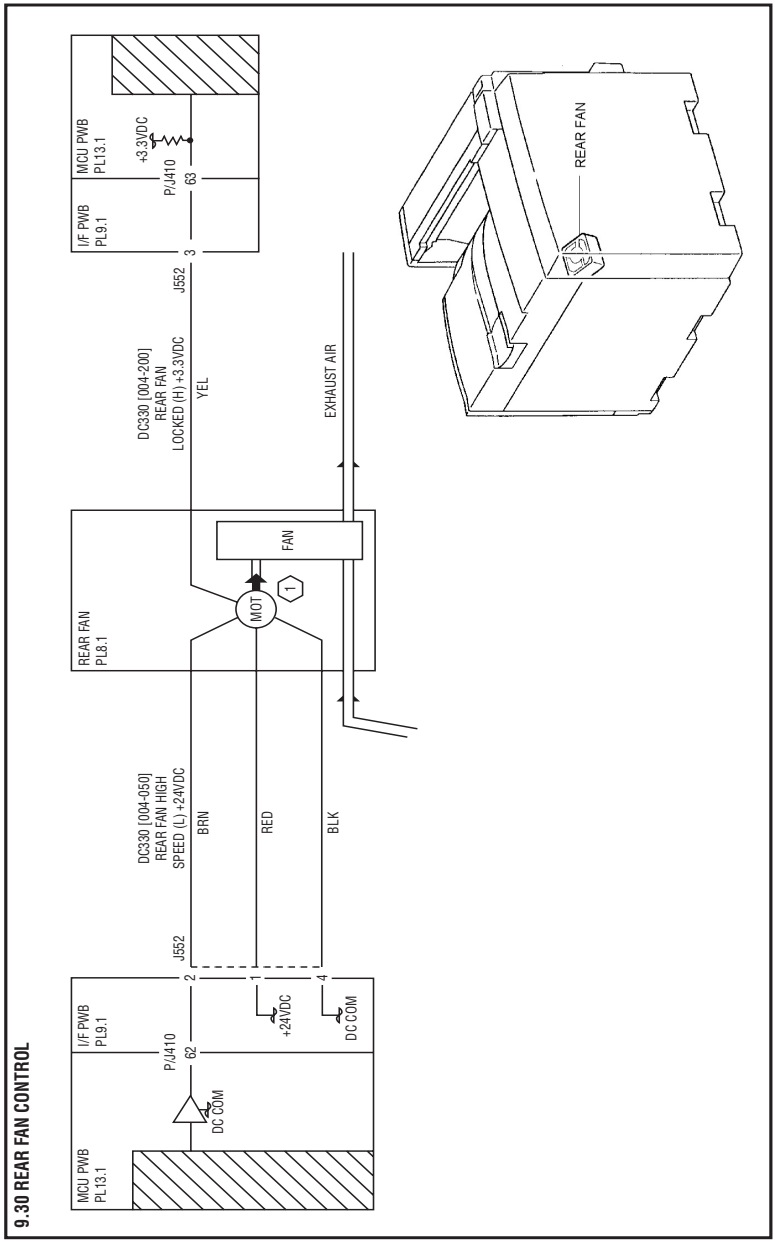
7750-316


9.25 STRIPPING
HVPS CONTROL PWB PL9.1
HVPS PWB PL9.1
DTS POWER CONTROL
DC330 [009-053] DTS REMOTE
ANALOG GND
+5VDC REF
DTS VOLTAGE MONITOR
+24VDC INTLK
DC COM
VIO
ORN
GRY
YEL
DTS POWER
UNFUSED COPY
STRIPPED UNFUSED COPY
POB SENSOR PL2.9
POB SENSOR SENSED SIGNAL
DC330 [009-201] POB SENSOR SENSED (L)
+3.3VDC
MCU PWB PL13.1
I/F PWB PL9.1
DOUBLE PLUG
9.24B
9.31A
10.2
NOTE:
1 HVPS Control PWB perfoms DTS on/off control and remote control by conducting serial communications with MCU PWB.
For the wiring from MCU PWB to HVPS Control PWB, see CH3.1B.
2 Virtual Line
7750-317

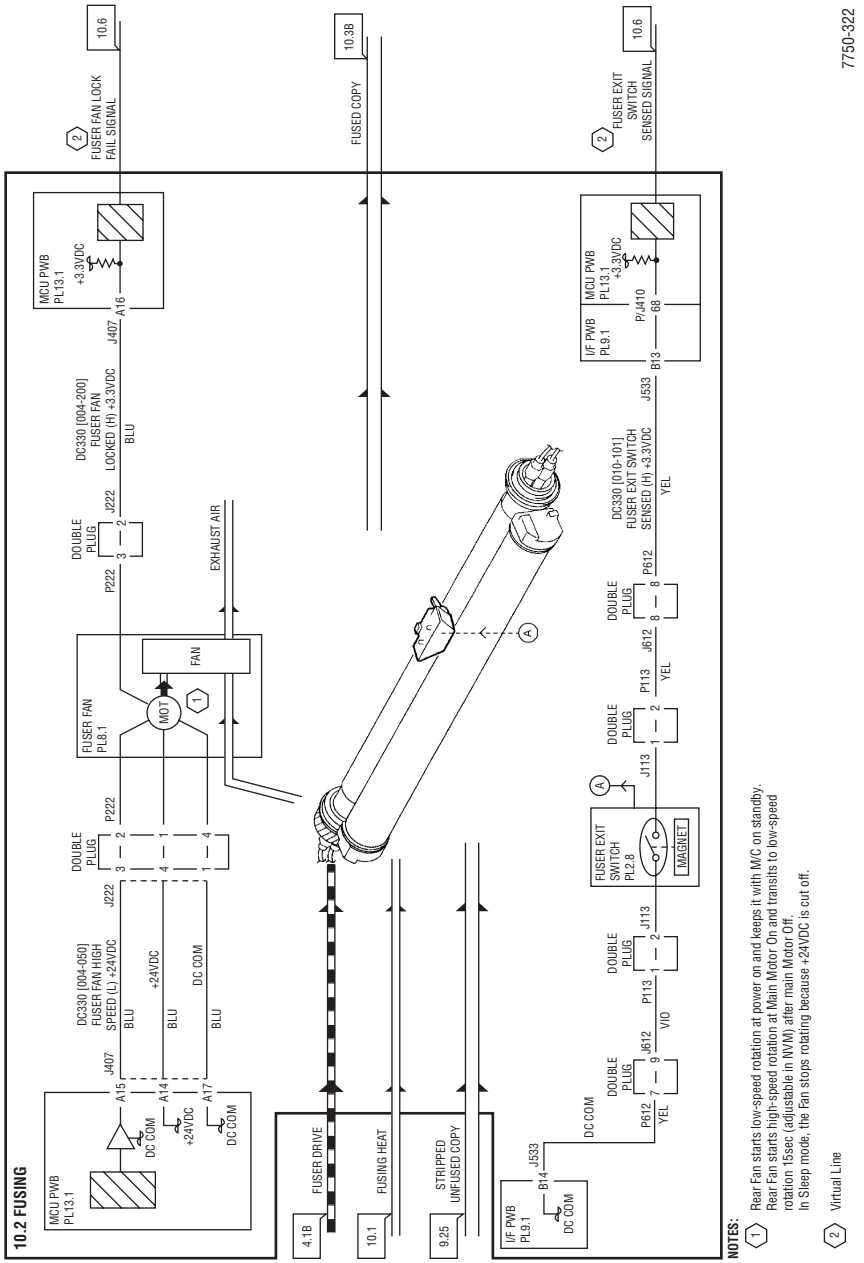
Drum Cleaning (Y, M as an Example)

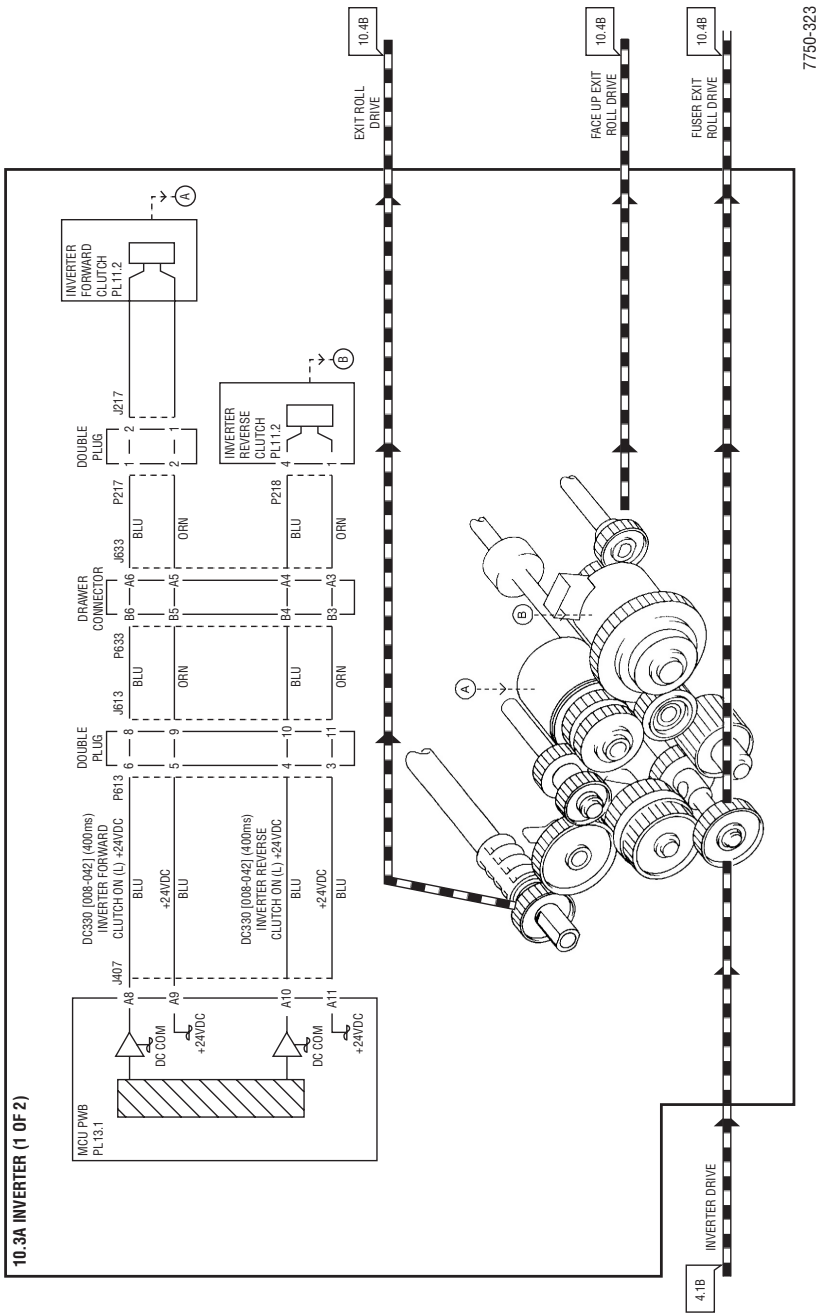


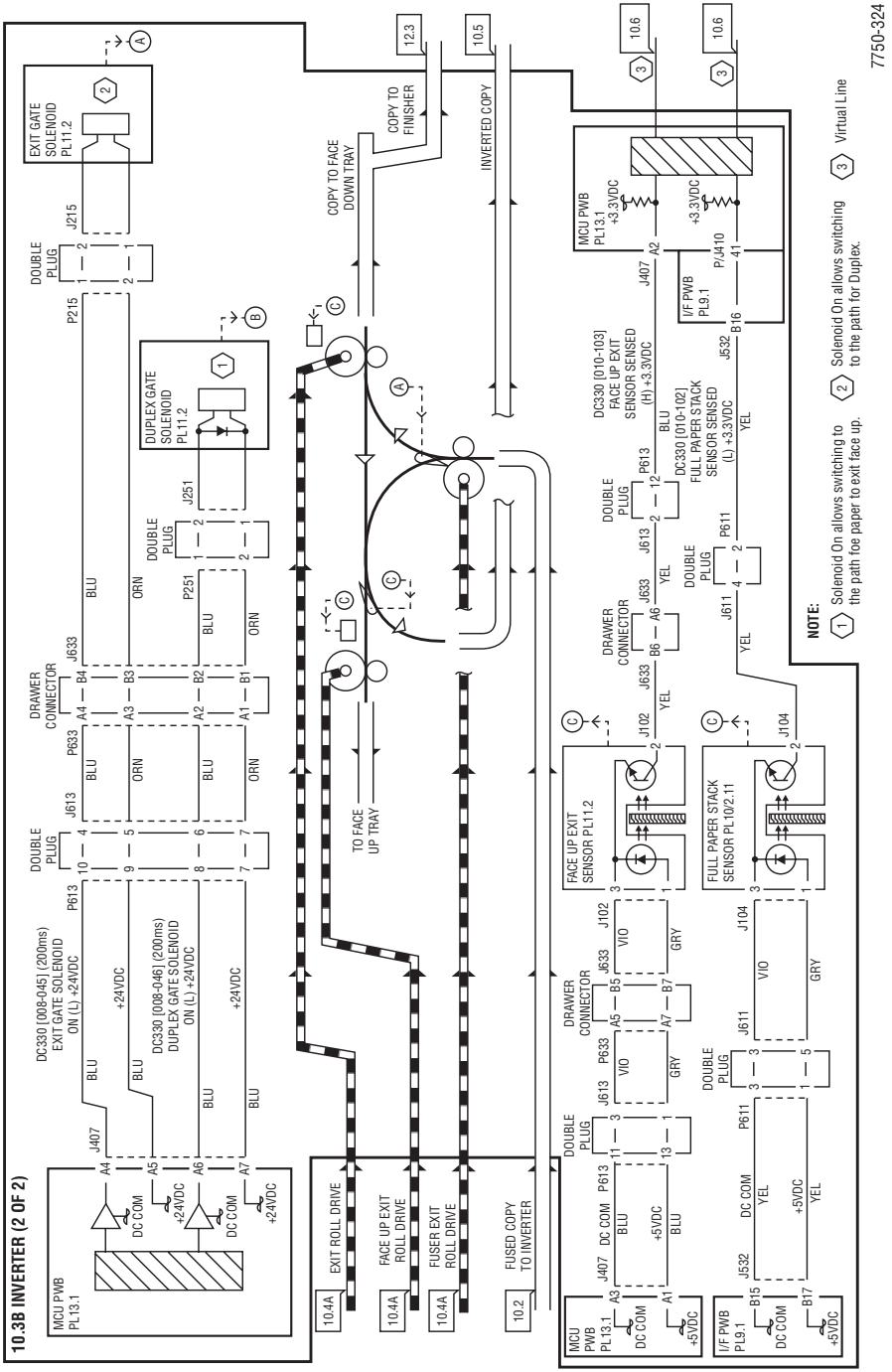

9.29 WASTE TONER DISPOSAL
9.28 WASTE TONER FROM IBT
9.10 WASTE TRICKLE (Y)
9.26 WASTE TONER (Y)
9.11 WASTE TRICKLE (M)
9.26 WASTE TONER (M)
9.12 WASTE TRICKLE (C)
9.27 WASTE TONER (C)
9.13 WASTE TRICKLE (K)
9.27 WASTE TONER (K)
MCU PWB PL13.1
I/F PWB PL9.1
P/J410
91
DC COM
B15
DC COM
B17
+5VDC
J407
+24VDC INTLK
A16
J532
A17
DC330 [009-034] AGITATOR MOTOR ON (L) +24VDC
J233
BLU
+24VDC INTLK
BLU
DOUBLE PLUG
P233
AGITATOR MOTOR PL4.1
MOT
DOUBLE PLUG
P614
J614
DC COM
YEL
+5VDC
YEL
J133
FULL TONER SENSOR PL4.1
DOUBLE PLUG
J133
P614
J614
DC330 [009-150] FULL TONER SENSED (H) +3.3VDC
J407
YEL
B16
MCU PWB PL13.1
+3.3VDC
FULL TONER SENSOR SENSED SIGNAL
9.31E
WASTE TONER BOTTLE INTERLOCK SWITCH
NOTE:
1 Virtual Line
7750-320



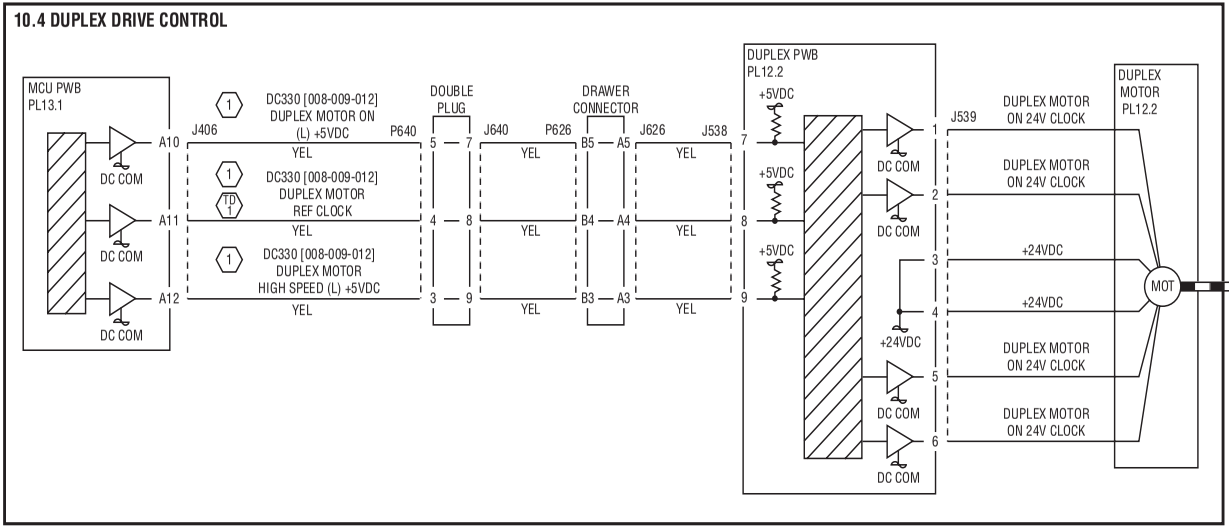
1 Rear Fan starts low-speed rotation at power on and keeps it with M/C on standby.
Rear Fan starts high speed rotation at Main Motor On and transits to low-speed rotation 15sec (adjustable in NVM) after Main Motor Off.
In Sleep mode, the Fan stops rotation because +24VDC is cut off.


10.2 FUSING
MCU PWB PL13.1
DC330 [004-050] FUSER FAN HIGH SPEED (L) +24VDC
J407
A15
BLU
DC COM
A14
+24VDC
BLU
+24VDC
DC COM
A17
BLU
DC COM
DOUBLE PLUG
J222
P222
3 — 2
4 — 1
1 — 4
FUSER FAN PL8.1
MOT
FAN
1
EXHAUST AIR
DOUBLE PLUG
P222
3 — 2
J222
DC330 [004-200] FUSER FAN LOCKED (H) +3.3VDC
BLU
J407
A16
MCU PWB PL13.1
+3.3VDC
2
FUSER FAN LOCK FAIL SIGNAL
10.6
FUSED COPY
10.3B
4.1B
FUSER DRIVE
10.1
FUSING HEAT
9.25
STRIPPED UNFUSED COPY
I/F PWB PL9.1
J533
B14
DC COM
DOUBLE PLUG
P612
7 — 9
J612
YEL
VIO
P113
1 — 2
J113
FUSER EXIT SWITCH PL2.8
A
MAGNET
DOUBLE PLUG
J113
1 — 2
P113
J612
8 — 8
P612
YEL
DC330 [010-101] FUSER EXIT SWITCH SENSED (H) +3.3VDC
YEL
J533
B13
I/F PWB PL9.1
MCU PWB PL13.1
+3.3VDC
PJ410
68
2
FUSER EXIT SWITCH SENSED SIGNAL
10.6
NOTES:
1 Rear Fan starts low-speed rotation at power on and keeps it with M/C on standby.
Rear Fan starts high-speed rotation at Main Motor On and transits to low-speed rotation 15sec (adjustable in NVM) after main Motor Off.
In Sleep mode, the Fan stops rotating because +24VDC is cut off.
2 Virtual Line
7750-322


10.3A INVERTER (1 OF 2)
MCU PWB
PL13.1
J407
A8
A9
A10
A11
DC COM
+24VDC
DC330 [008-042] (400ms)
INVERTER FORWARD
CLUTCH ON (L) +24VDC
DC330 [008-042] (400ms)
INVERTER REVERSE
CLUTCH ON (L) +24VDC
BLU
P613
DOUBLE PLUG
J613
P633
DRAWER CONNECTOR
J633
P217
P218
ORN
INVERTER FORWARD CLUTCH PL11.2
INVERTER REVERSE CLUTCH PL11.2
J217
EXIT ROLL DRIVE
FACE UP EXIT ROLL DRIVE
FUSER EXIT ROLL DRIVE
INVERTER DRIVE
10.4B
4.1B
7750-323


10.3B INVERTER (2 OF 2)
MCU PWB PL13.1
DC330 [008-045] (200ms) EXIT GATE SOLENOID ON (L) +24VDC
DC330 [008-046] (200ms) DUPLEX GATE SOLENOID ON (L) +24VDC
DC COM
+24VDC
+5VDC
EXIT ROLL DRIVE
FACE UP EXIT ROLL DRIVE
FUSER EXIT ROLL DRIVE
FUSED COPY TO INVERTER
TO FACE UP TRAY
EXIT GATE SOLENOID PL11.2
DUPLEX GATE SOLENOID PL11.2
DOUBLE PLUG
DRAWER CONNECTOR
COPY TO FACE DOWN TRAY
COPY TO FINISHER
INVERTED COPY
FACE UP EXIT SENSOR PL11.2
FULL PAPER STACK SENSOR PL10/2.11
DC330 [010-103] FACE UP EXIT SENSOR SENSED (H) +3.3VDC
DC330 [010-102] FULL PAPER STACK SENSOR SENSED (L) +3.3VDC
I/F PWB PL9.1
NOTE:
1 Solenoid On allows switching to the path foe paper to exit face up.
2 Solenoid On allows switching to the path for Duplex.
3 Virtual Line
7750-324

10.4 DUPLEX DRIVE CONTROL



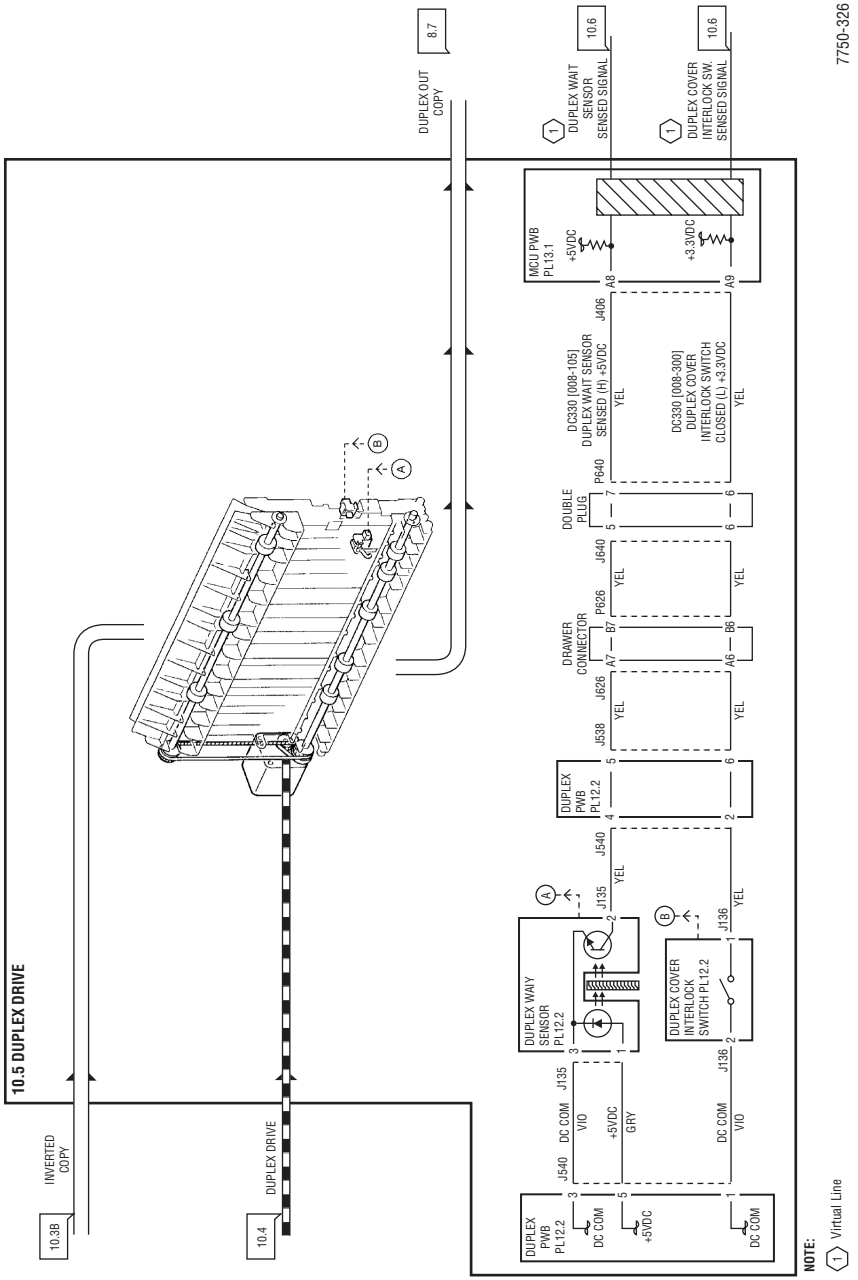
NOTE:

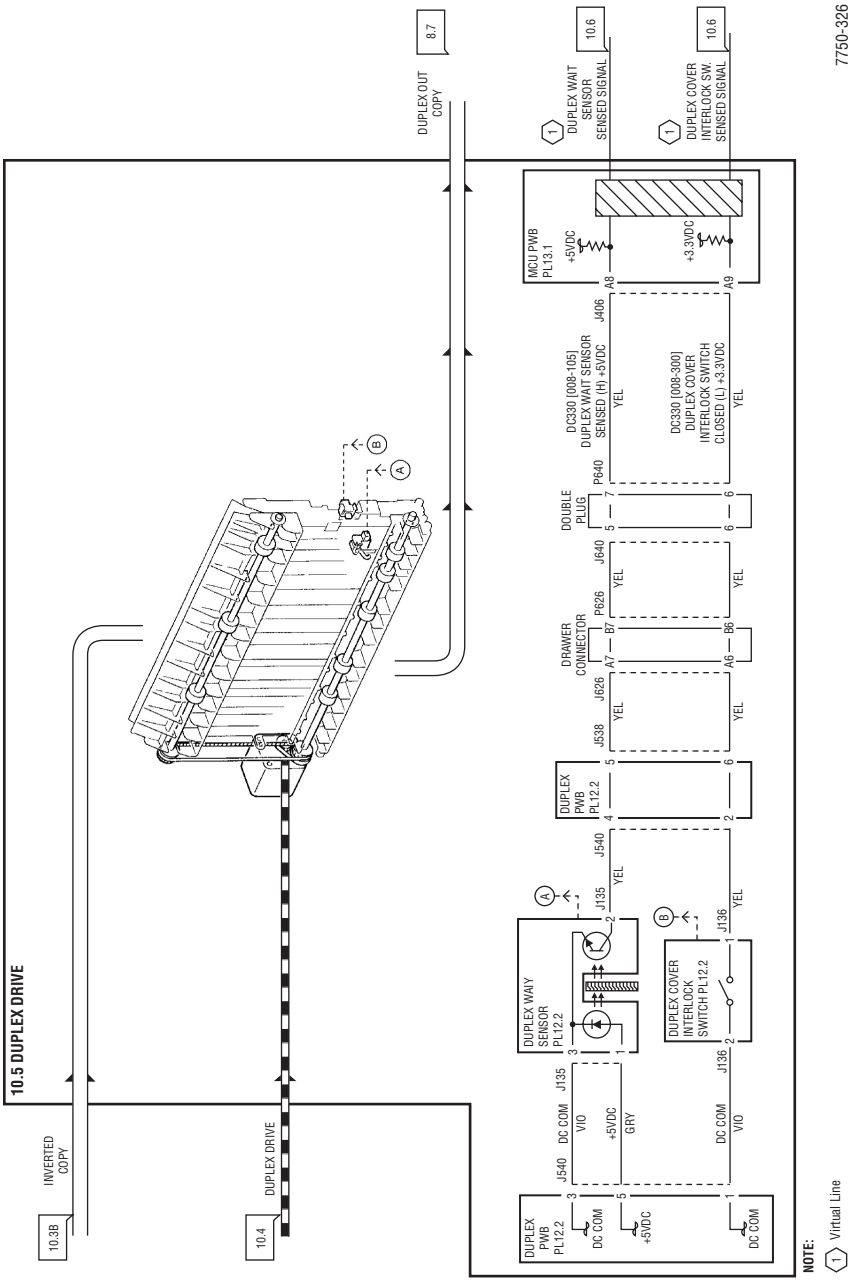
1 Operation speed and duration vary according to diag code.

DUPLEX MOTOR	Operation Speed	Operation duration
DC330 [008-009]	200mm/sec	1000ms
DC330 [008-010]	104mm/sec	1000ms
DC330 [008-011]	200mm/sec	Long
DC330 [008-012]	104mm/sec	Long

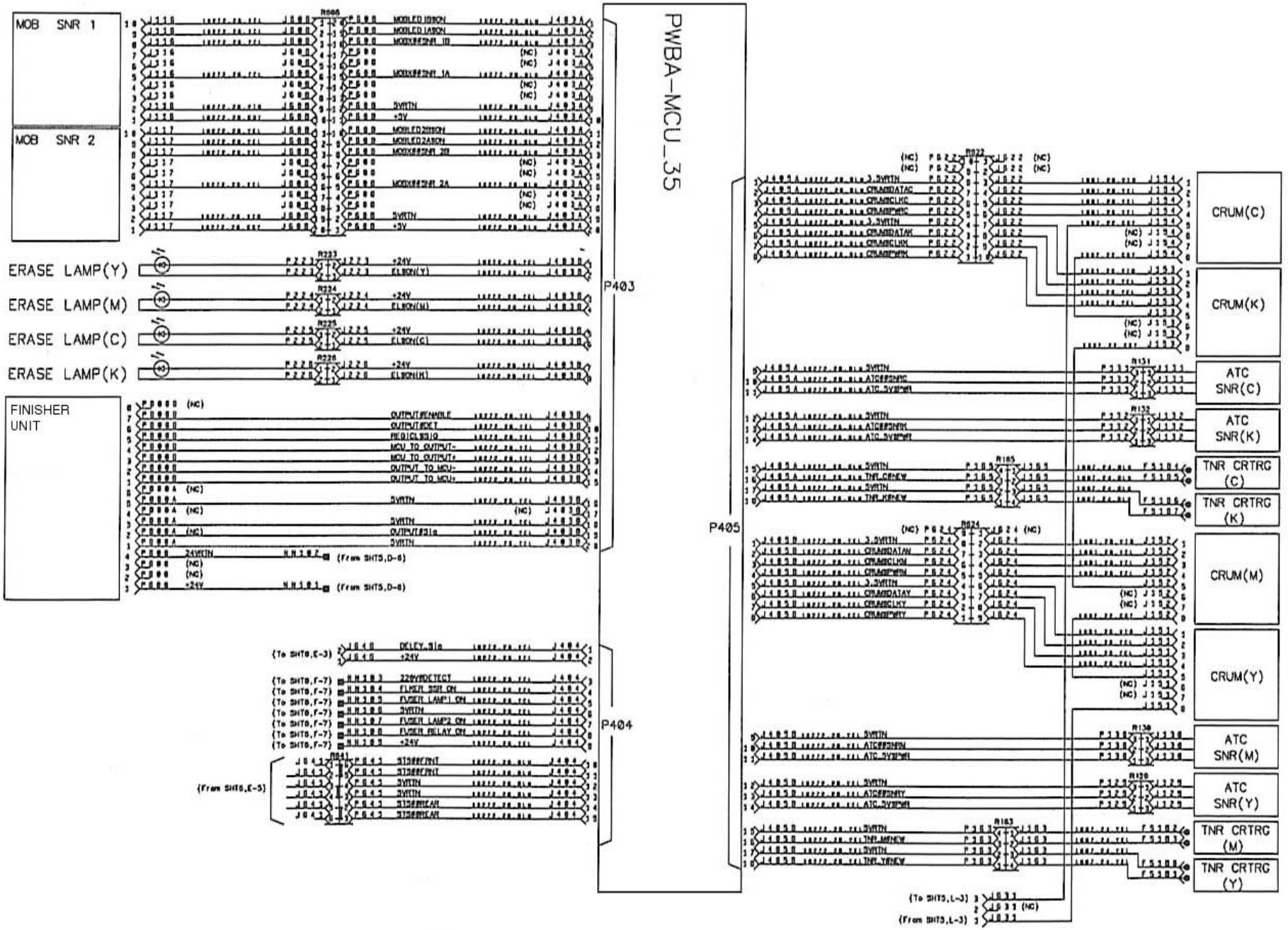
TP 1 Test Point: P600-4(+) to P600-6(-) a frequency of approx. 2.1KHz

7750-325

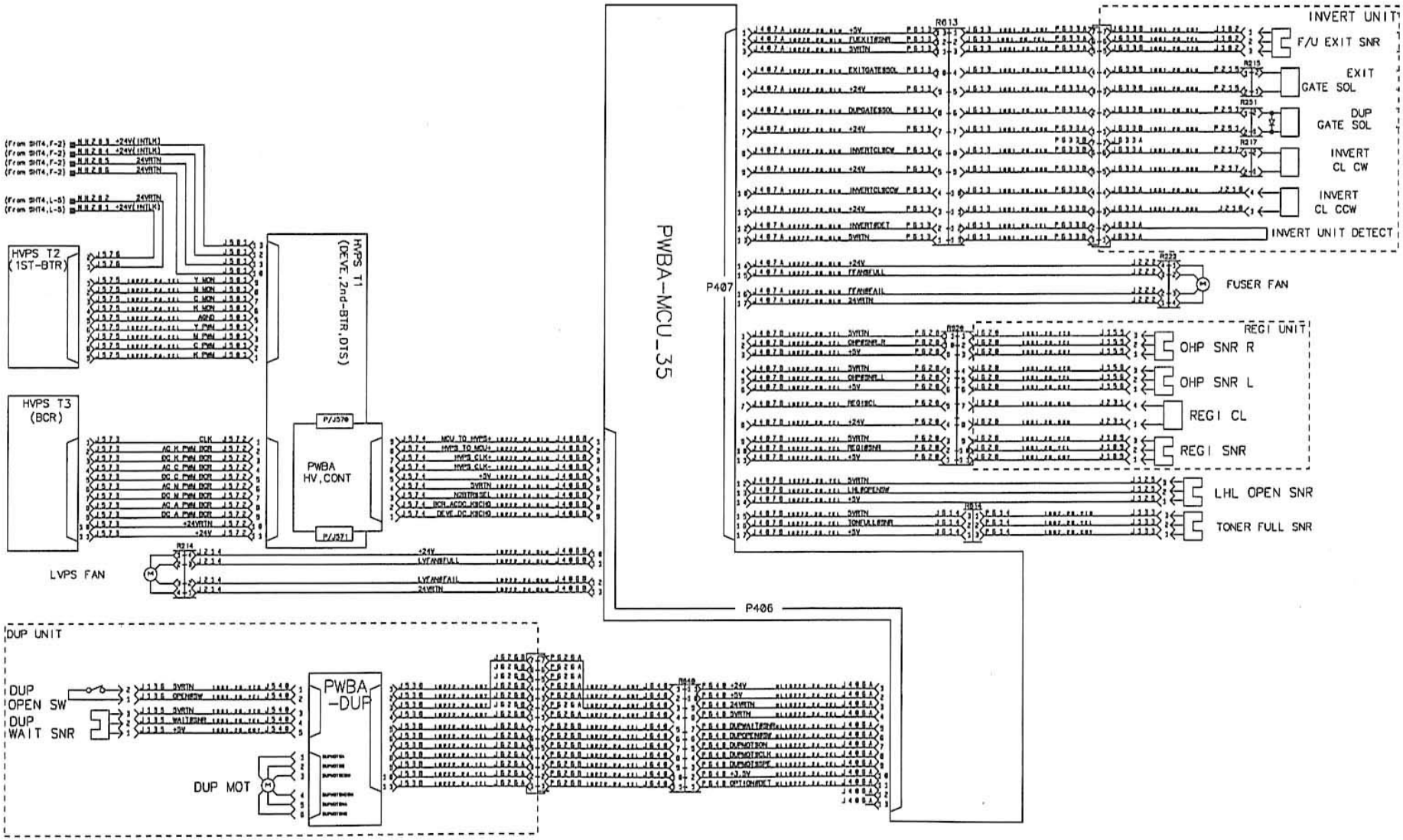

10.5 DUPLEX DRIVE
INVERTED COPY
10.3B
DUPLEX DRIVE
10.4
DUPLEX OUT COPY
8.7
DUPLEX PWB PL12.2
DC COM
+5VDC
DUPLEX WAIT SENSOR PL12.2
DUPLEX COVER INTERLOCK SWITCH PL12.2
DUPLEX PWB PL12.2
DRAWER CONNECTOR
DOUBLE PLUG
MCU PWB PL13.1
+5VDC
+3.3VDC
DC330 [008-105] DUPLEX WAIT SENSOR SENSED (H) +5VDC
DC330 [008-300] DUPLEX COVER INTERLOCK SWITCH CLOSED (L) +3.3VDC
DUPLEX WAIT SENSOR SENSED SIGNAL
10.6
DUPLEX COVER INTERLOCK SW. SENSED SIGNAL
10.6
NOTE:
1 Virtual Line
7750-326


10.5 DUPLEX DRIVE
INVERTED COPY
10.3B
DUPLEX DRIVE
10.4
DUPLEX OUT COPY
8.7
DUPLEX WAIT SENSOR SENSED SIGNAL
10.6
DUPLEX COVER INTERLOCK SW. SENSED SIGNAL
10.6
MCU PWB PL13.1
+5VDC
+3.3VDC
A8
A9
DC330 [008-105] DUPLEX WAIT SENSOR SENSED (H) +5VDC
DC330 [008-300] DUPLEX COVER INTERLOCK SWITCH CLOSED (L) +3.3VDC
J406
P640
DOUBLE PLUG
J640
P626
DRAWER CONNECTOR
J626
J538
DUPLEX PWB PL12.2
J540
J135
J136
DUPLEX WAIY SENSOR PL12.2
DUPLEX COVER INTERLOCK SWITCH PL12.2
DC COM
VIO
+5VDC
GRY
YEL
NOTE:
1 Virtual Line
7750-326

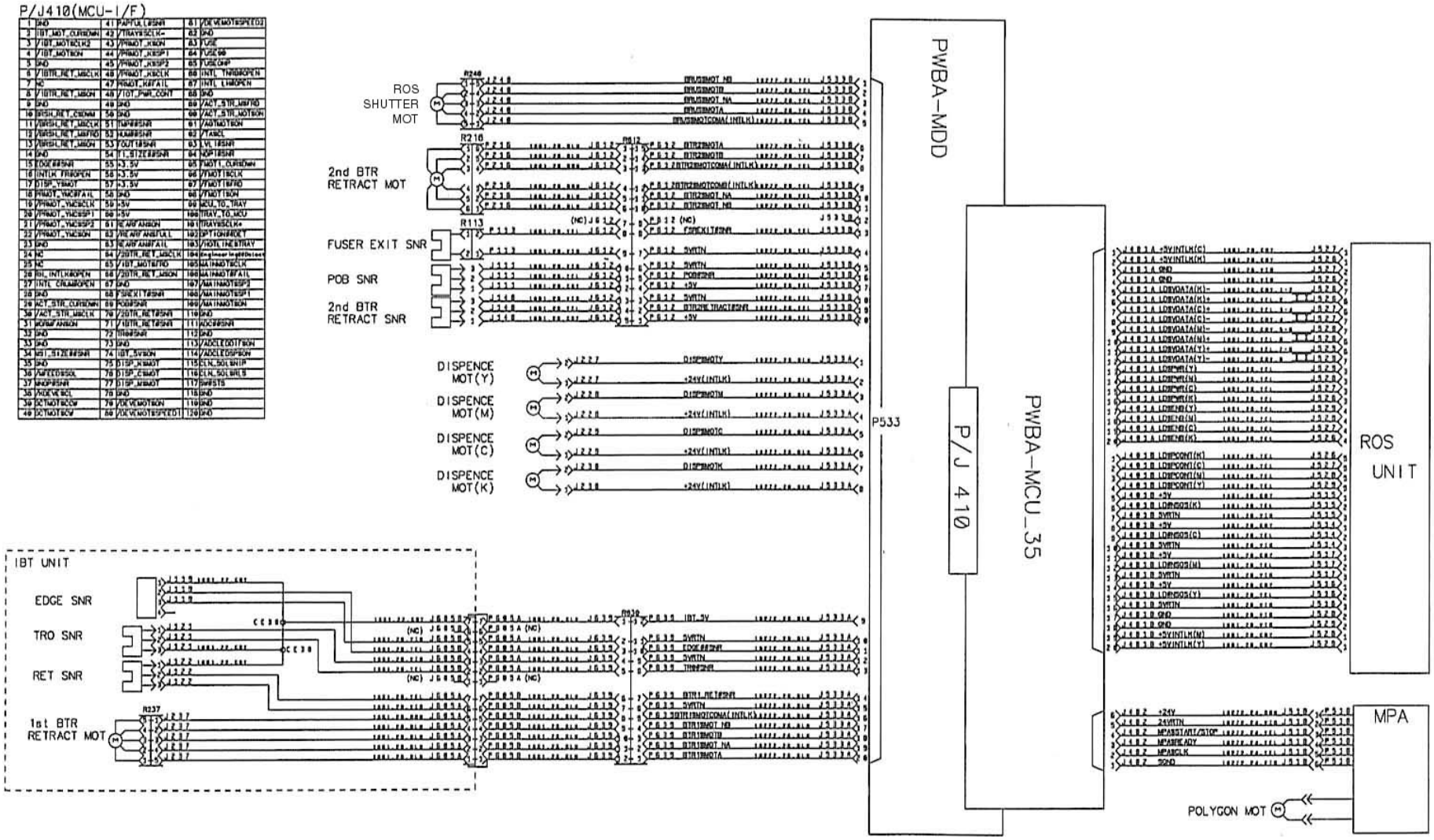
Phaser 7750 Wiring Schematic 1 of 6



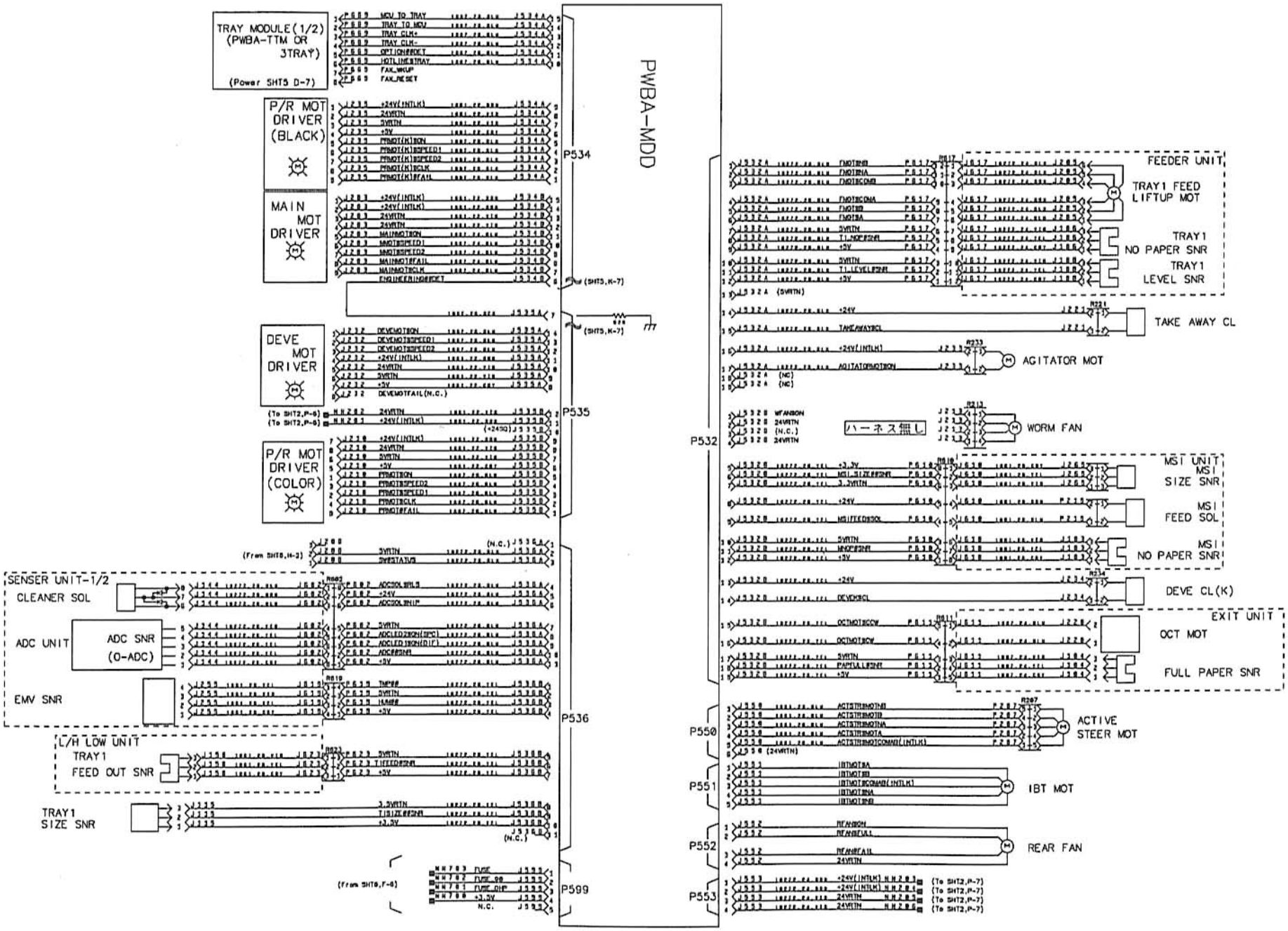
Phaser 7750 Wiring Schematic 2 of 6

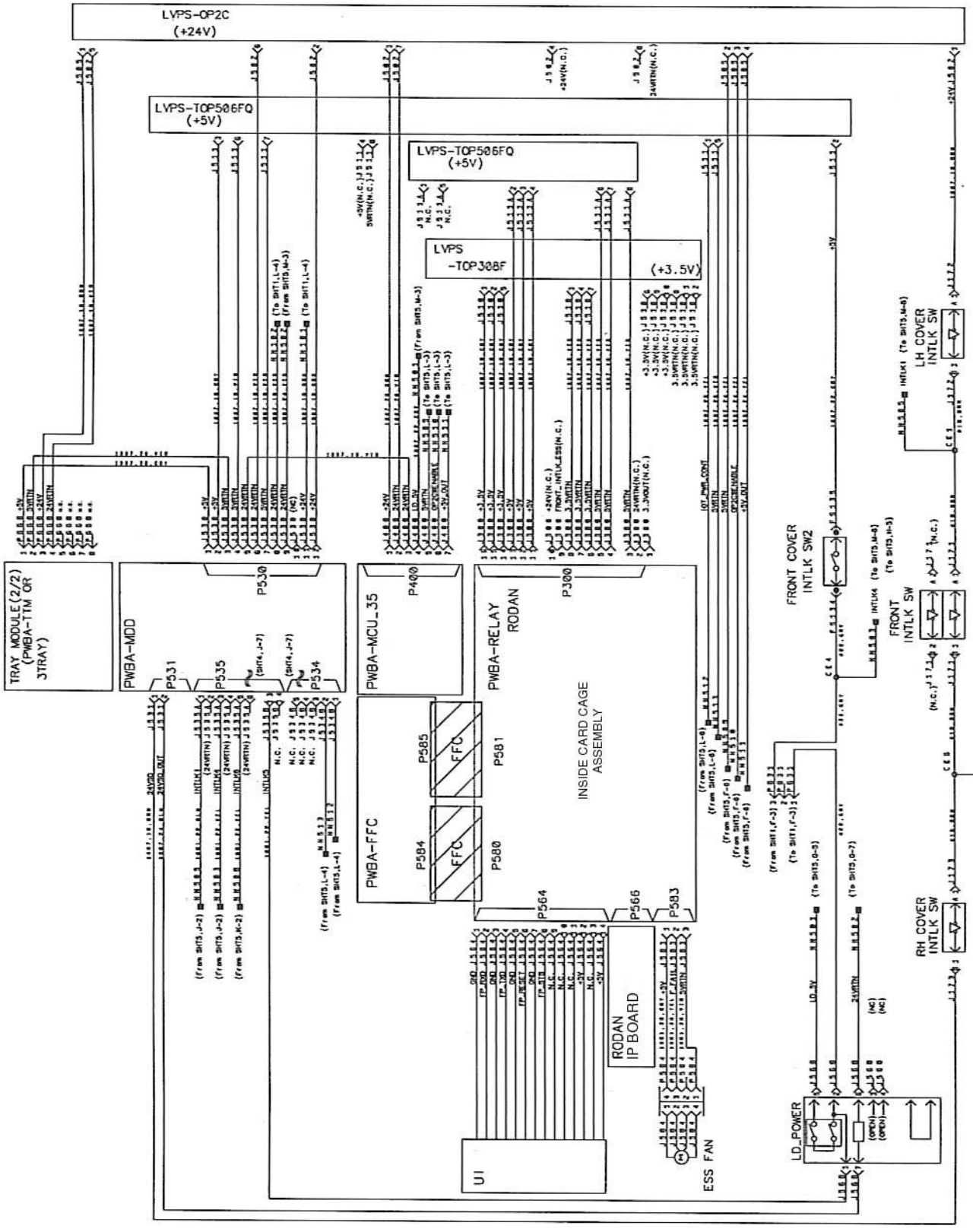


Phaser 7750 Wiring Schematic 3 of 6

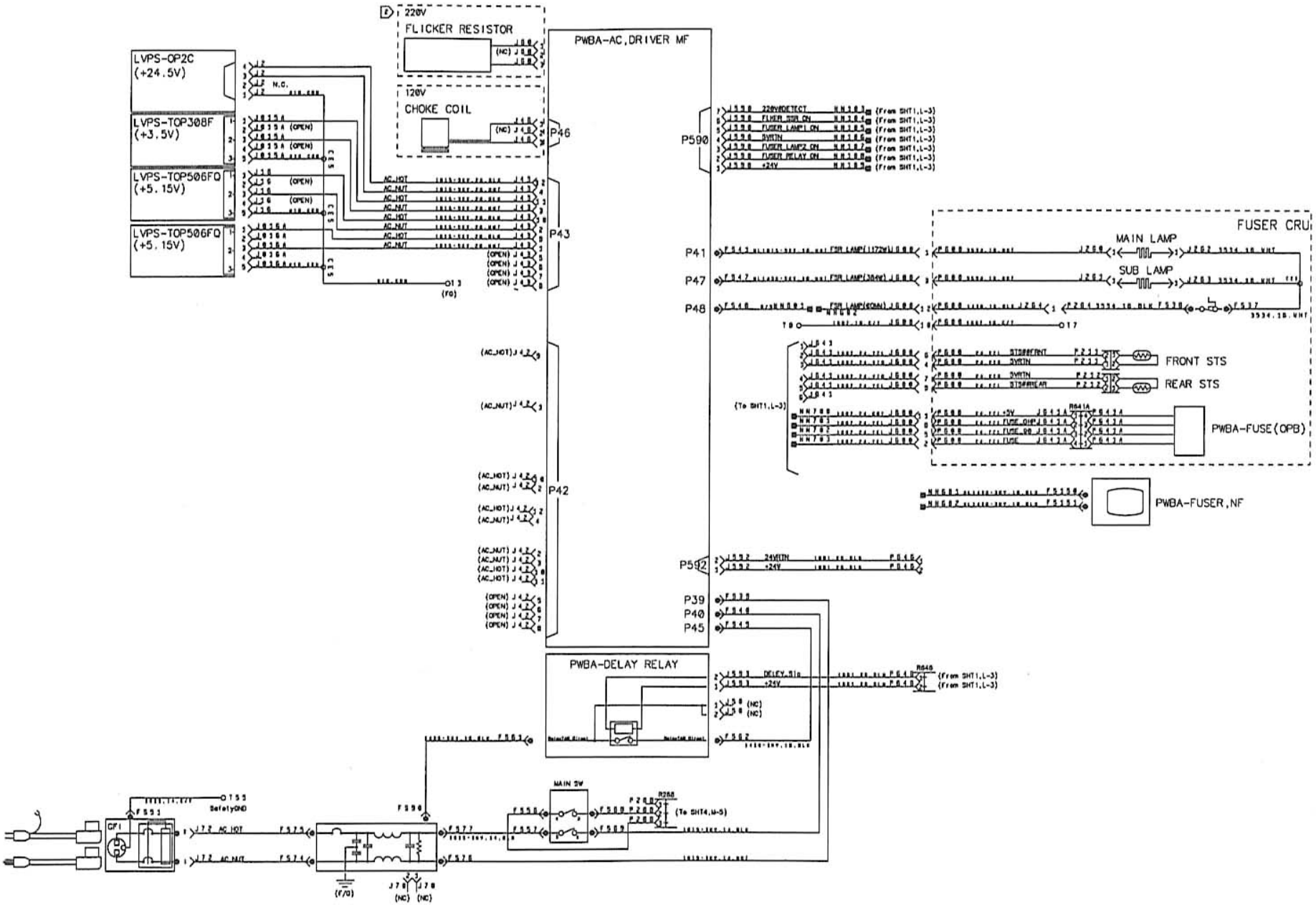


Phaser 7750 Wiring Schematic 4 of 6




LVPS-OP2C
(+24V)
LVPS-TOP506FQ
(+5V)
LVPS-TOP506FQ
(+5V)
LVPS
-TOP308F
(+3.5V)
TRAY MODULE(2/2)
(PWBA-TTM OR
3TRAY)
PWBA-MDD
P530
P531
P535
P534
PWBA-MCU_35
P400
PWBA-RELAY
RODAN
P300
PWBA-FFC
P585
P584
FFC
P581
P580
P564
P566
P583
INSIDE CARD CAGE
ASSEMBLY
UI
RODAN
IP BOARD
ESS FAN
LD_POWER
FRONT COVER
INTLK SW2
FRONT
INTLK SW
LH COVER
INTLK SW
RH COVER
INTLK SW

Phaser 7750 Wiring Schematic 6 of 6



Phaser 7750 Finisher

In this chapter...

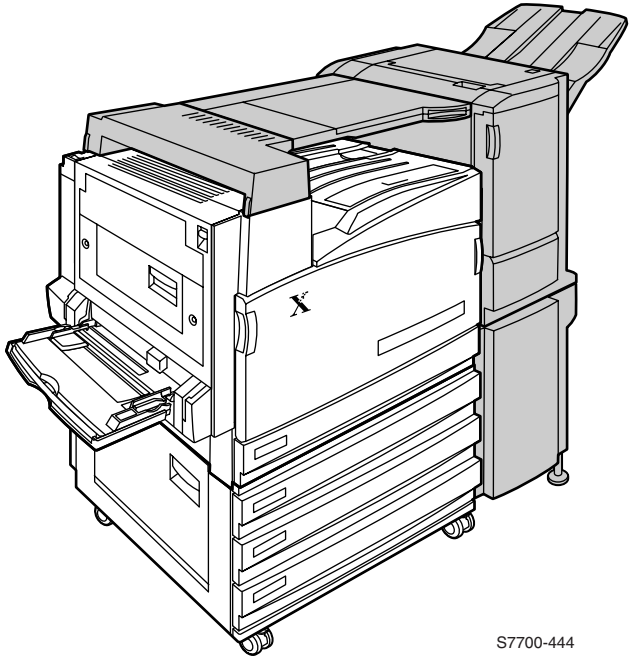
- Phaser 7750 Finisher
- Finisher Specifications
- Finisher Assemblies
- Finisher Disassembly
- Finisher Service Parts List

Chapter 11

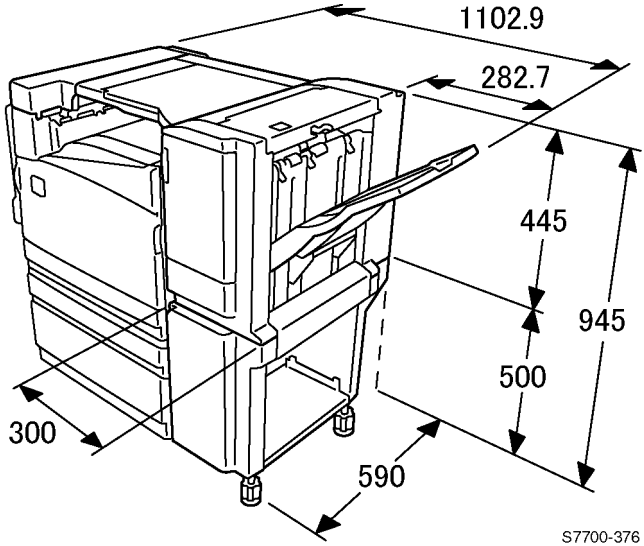
Phaser 7750 Finisher

Finisher Overview

- The finisher is a customer installed option that contains a horizontal transport, stapler, compiler, and stacker.
- The finisher docks with the print engine and finisher stand.
- The finisher's built in power supply takes +24 VDC from the printer and provides all the DC voltages required.



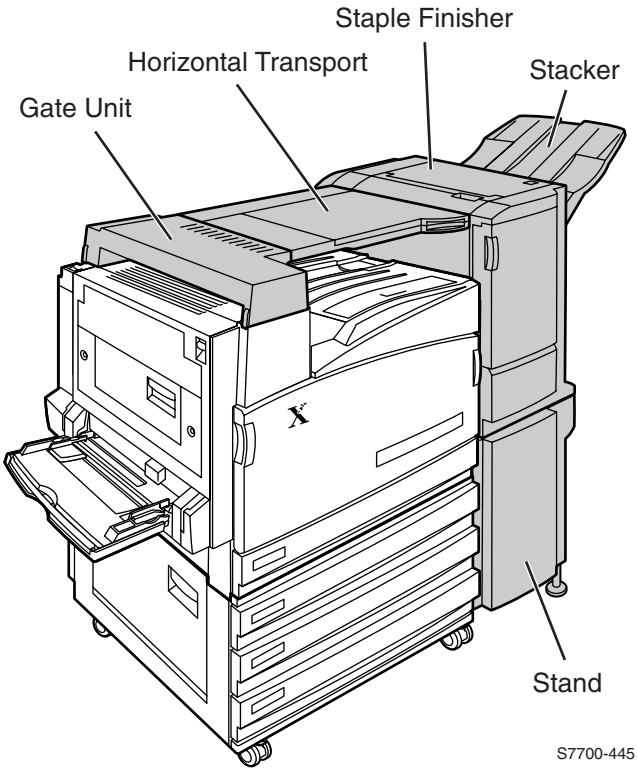
Finisher Specifications

Category	Specification
Configuration	User installed option. The finisher provides stapling (up to 50 sheets), print job offset and stacking up to 1,000 sheets of paper. The finisher docks with the printer and stand. All finisher operations are controlled by the finisher control board.
Paper feed	Paper leaving the exit section of the printer is fed to the paper catch area then directly into the horizontal transport. The horizontal transport then delivers the paper to the finisher where stapling, offsetting (jogging) and stacking occur.
Power requirements	The printer provides +24 VDC to the finisher. The finisher's power supply provides all required DC voltages throughout the finisher option. The Phaser 7750 Light Finisher shall meet FCC part 15, subpart B, Class A. CISPR22 Class A.
Dimensions: shown in mm.	

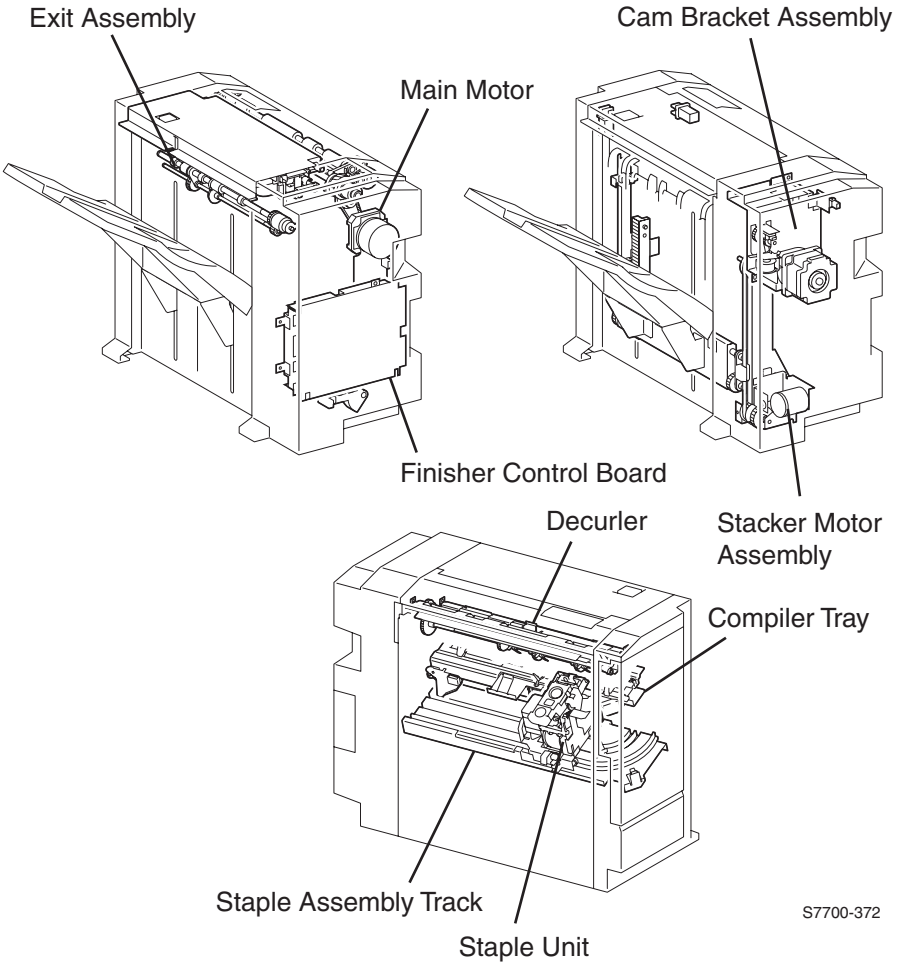
Media Types	Long-Edge Feed (LEF)	Short-Edge Feed (SEF)
	B5	A3
	A4	A4
	Letter	B4
		8" x 10"
		Letter
		US Folio
		Legal
		Tabloid
Media Weight	64 - 105 g/m^2 (Thick/Thin paper)	

Category	Specification
Stacker Capacity	1000 non-stapled sheets (20 lb. paper, letter/A4 or smaller) 500 unstapled sheets (20 lb. paper, over size Letter/A4) 300 unstapled sheets (Mix Stack / loading large on small) 50 stapled sets
Staple Cartridge Capacity	5000 staples

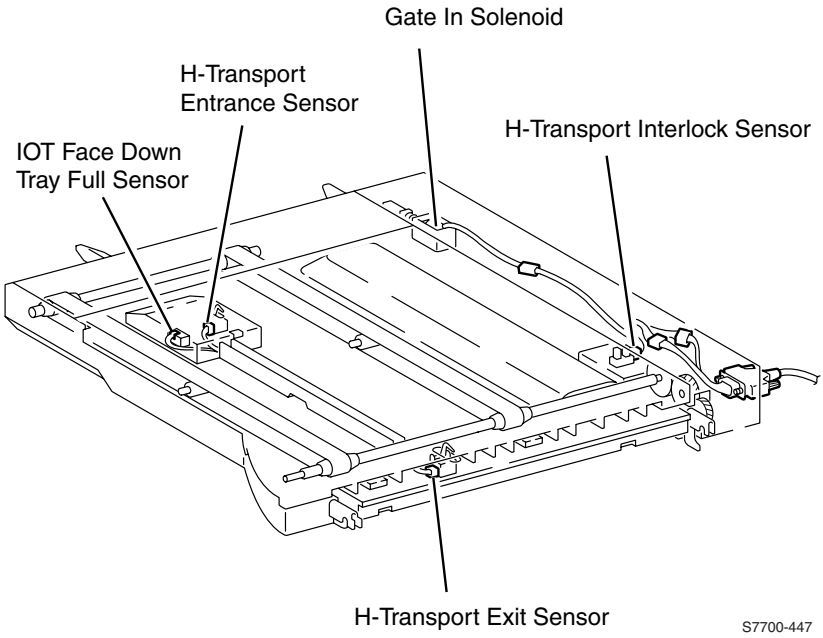
Finisher Assemblies



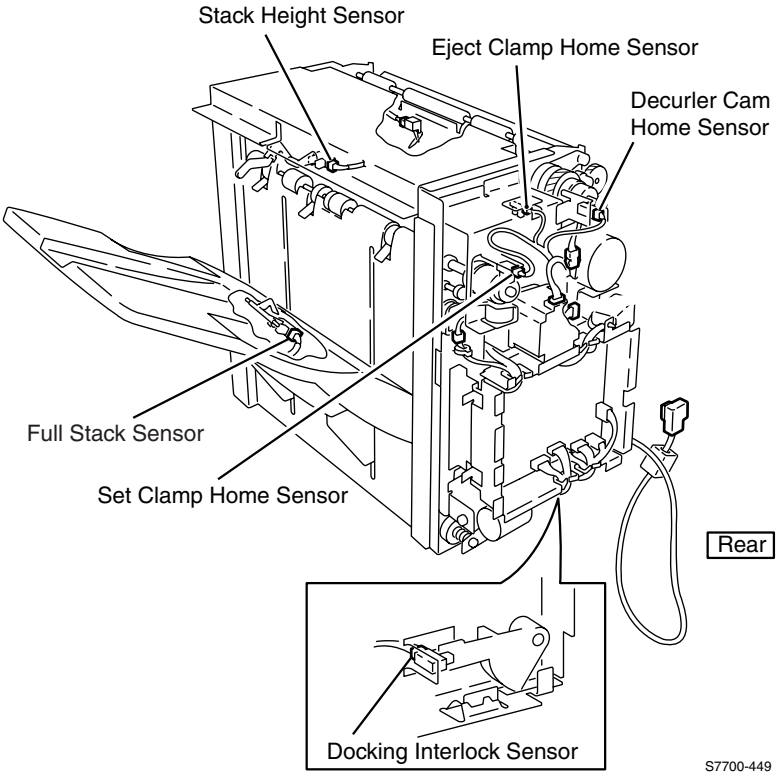
Internal Assemblies of the Finisher



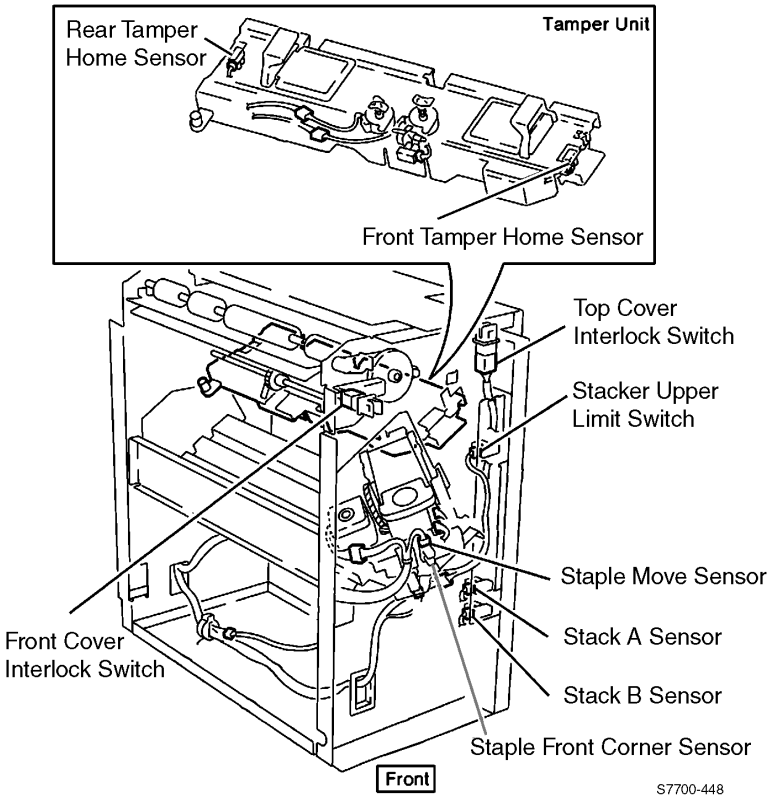
Horizontal Transport Sensor, Interlock and Switch Locations



Finisher Sensor, Interlock and Switch Locator Map



Finisher Sensor, Interlock and Switch Locator Map



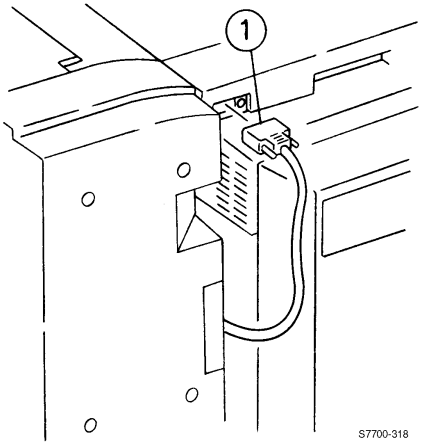
Finisher Disassembly

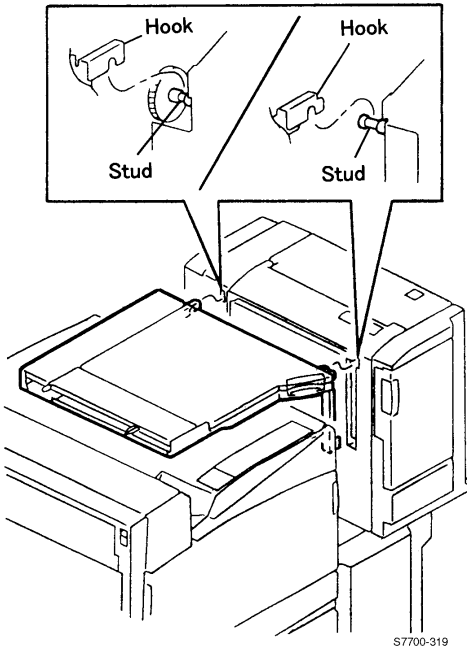
This section details the removal and replacement procedures for the main assemblies of the Phaser 7750 light finisher.

When replacing sensors, actuators, interlocks and/or switches;

- Refer to the appropriate locator map to identify the sensor.
- Remove the necessary covers.
- Press down on the two locking tabs located at the top of the sensor, press up on the two locking tabs at the bottom of the sensor and remove the sensor.

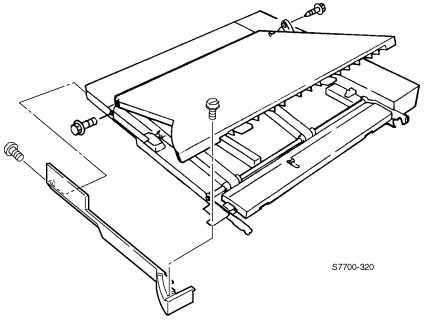
Horizontal Transport Assembly

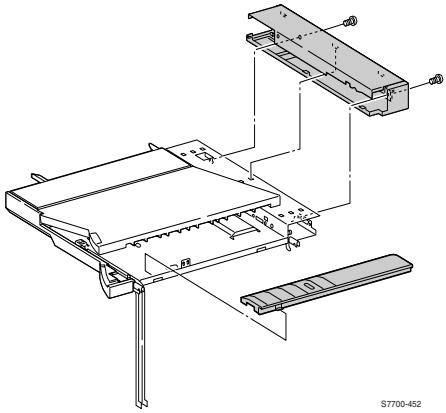




1. Unplug the finisher from the printer.
2. Lift the two hooks securing the horizontal transport assembly to the finisher.
3. Remove the horizontal transport assembly.

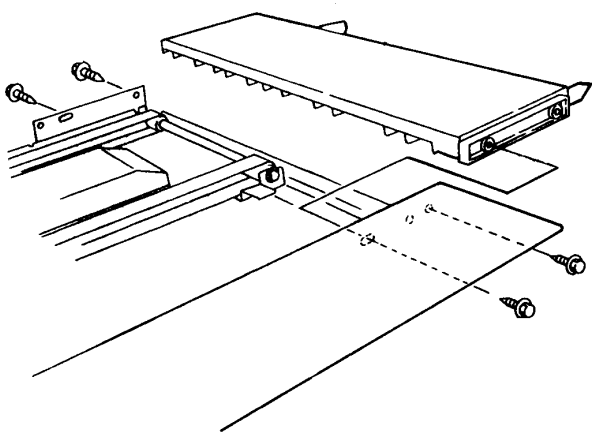
Horizontal Transport Top Open, Front, and Rear Cover





1. Remove the horizontal transport assembly, see page 11-11.
2. Remove 1 screw securing the stopper.
3. Remove 2 screws from the horizontal transport front cover and remove the cover.
4. Remove the hinge screw and remove the top open cover.
5. Remove 2 screws securing the horizontal transport rear cover.
6. Remove the horizontal transport entrance upper cover assembly.
7. Remove the horizontal transport exit guide by pressing on the tabs on the lower right edge of the horizontal transport frame.
8. Remove the upper rear cover.

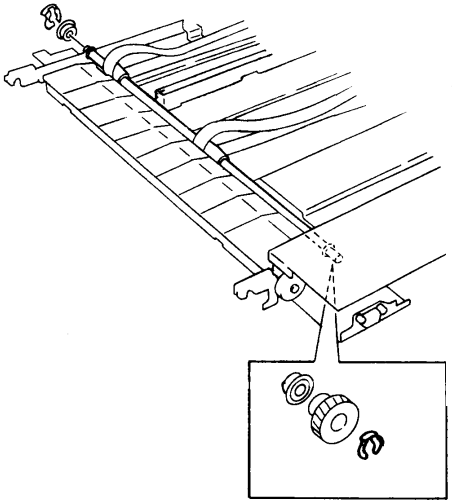
Horizontal Transport Entrance Upper Cover Assembly



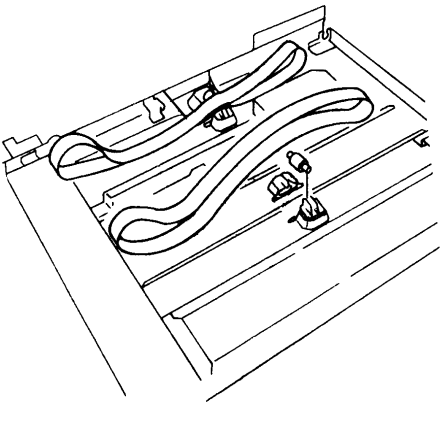
S7700-321

1. Remove the horizontal transport assembly, see page 11-11.
2. Remove the front cover, see page 11-12.
3. Remove 2 screws securing the rear cover and remove.
4. Remove the gate-in solenoid assembly.
5. Remove 4 screws securing the entrance upper cover assembly.

Horizontal Transport Belts



S7700-323



S7700-324

1. Remove the horizontal transport covers, see page 11-12.
2. Remove the KL-clips from the horizontal transport in and out.
3. Remove the bearings from the horizontal transport in and out shafts.
4. Remove one end of each horizontal transport belt roller support.
5. Remove the belts.

Replacement

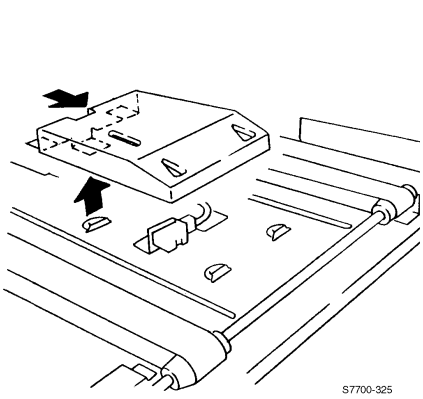
Note

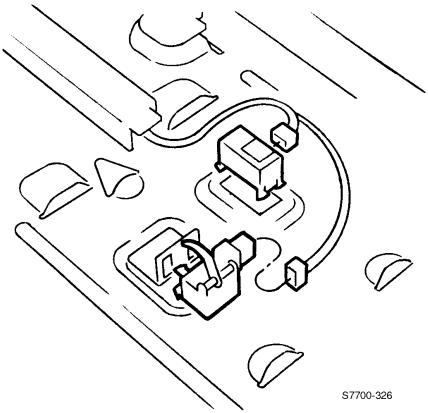
When reinstalling the belts, ensure that the textured side is out.

Note

If necessary, remove the KL-clip and gear from the out roller to reinstall the belts to help install the bearing.

Horizontal Transport Entrance Sensor and Top Tray Full Sensor





1. Remove the horizontal transport top open and front cover, see page 11-12.
2. Remove the 2 screws securing the horizontal transport entrance upper cover, see page 11-13
3. Remove the entrance sensor cover, pry up on the locking tab while pressing firmly towards the entrance end of the transport.
4. Disconnect the wiring harness connector.
5. Press down on the two locking tabs located at the top of the sensor, press up on the two locking tabs at the bottom of the sensor and remove the sensor.

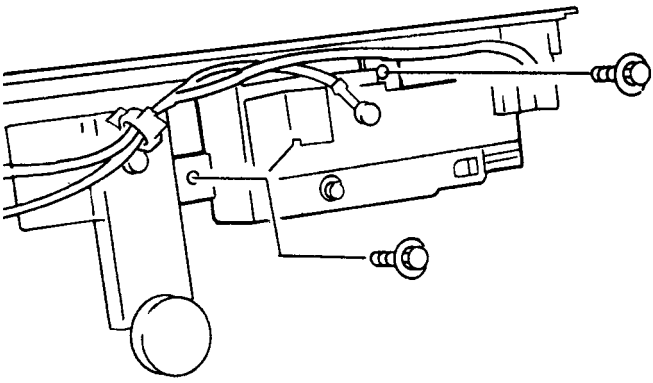
Top Tray Sensor

1. Disconnect the wiring harness.
2. Remove 1 screw and remove the sensor bracket and sensor.

Note

When replacing the sensor be sure the harness guide is engaged into the cover.

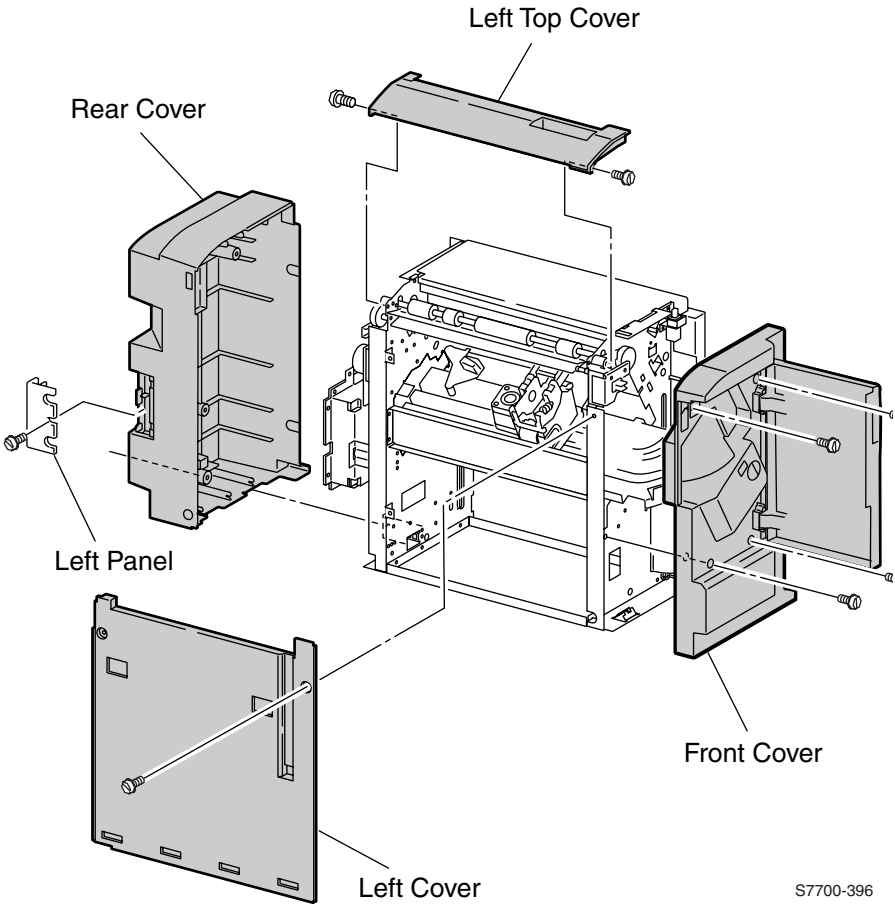
Gate-In Solenoid Assembly



S7700-375

1. Remove the Rear Cover.
2. Disconnect the ground wire from the solenoid housing.
3. Remove the 2 screws securing the Gate-In Solenoid Assembly and remove.

Finisher Covers



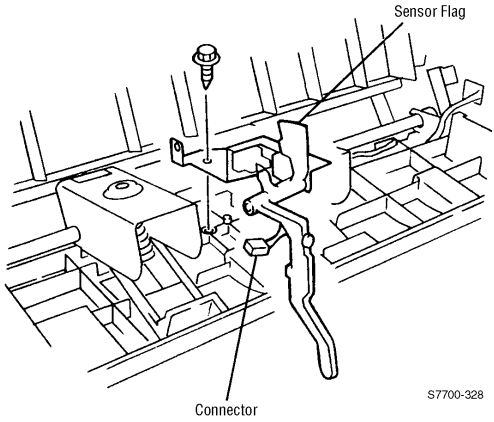
1. Remove the Horizontal Transport Assembly, see page 11-11.
2. Remove 1 screw from the Left Panel and remove.
3. Remove 5 screws from the Rear Cover.
4. Clear the gear at the top of the Rear Cover and remove the cover.

5. Open the front door.
6. Remove 4 screws securing the front cover and remove.
7. Remove 2 screws from the left cover and lift up and out to remove.
8. Loosen the 4 screws securing the top cover.
9. Remove the left portion of the top cover assembly.
10. Open the top door and remove the front and back screws.
11. Pop off both straps, tilt the cover up and remove.

Note

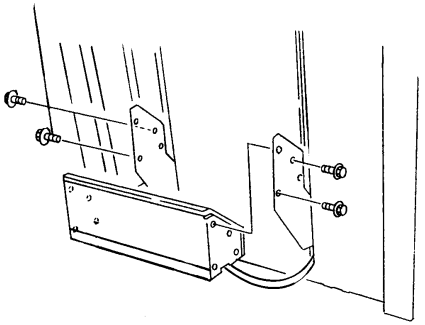
When installing the rear cover, be sure that the two cables exiting the rear cover are properly aligned around the plastic tab in the exit way. If not, the cables fall to the bottom of the exit way and the cable to the horizontal transport cannot reach the cable connector on the transport.

Stack Height-Sensor Assembly

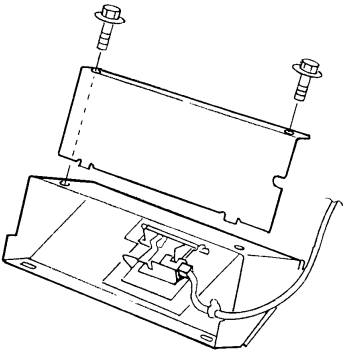


1. Remove the horizontal transport assembly, see page 11-11.
2. Remove the top cover, see page 11-17.
3. Remove 1 screw from the Stack Height Sensor bracket.
4. Press down on the two locking tabs located at the top of the sensor, press up on the two locking tabs at the bottom of the sensor and remove the sensor.

Stacker Paper-Sensor Assembly



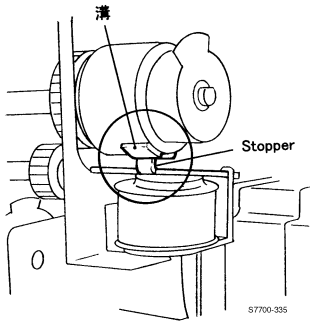
S7700-329



S7700-374

1. Loosen the thumb screw and remove the stacker tray.
2. Remove the 4 screws securing the stacker paper sensor assembly to the finisher.
3. Remove 2 screws from the bottom of the assembly.
4. Remove 1 screw on the sensor bracket.
5. Press down on the two locking tabs located at the top of the sensor, press up on the two locking tabs at the bottom of the sensor and remove the sensor.
6. Remove the connector from the sensor.

Set Clamp Clutch and Gear

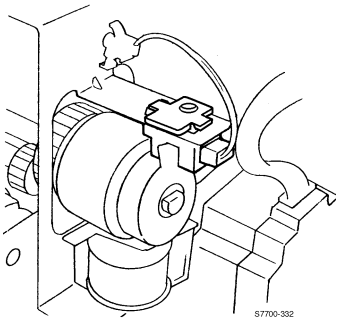


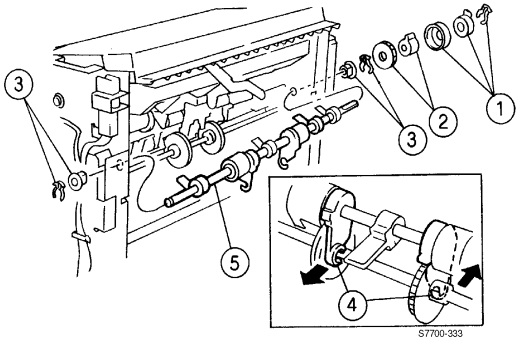
1. Remove the rear cover, see page 11-17.
2. Remove the set clamp actuator.
3. Remove 1 screw from the set clamp actuator retainer and remove.
4. Remove the clutch collar and clutch.
5. Remove the gear.

Note

When replacing, after installing the clutch collar you need to depress the clutch solenoid and rotate the set clamp shaft 1/4 revolution Counter-Clockwise. Then install the set clamp actuator. Then rotate the clutch until the solenoid snaps into position.

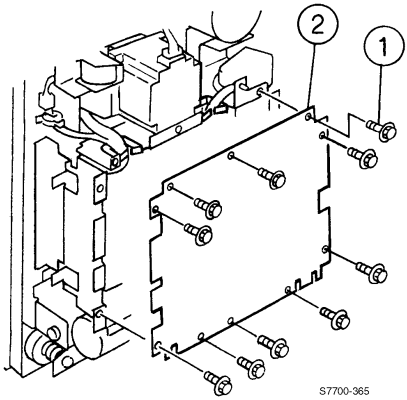
Eject Roll Assembly

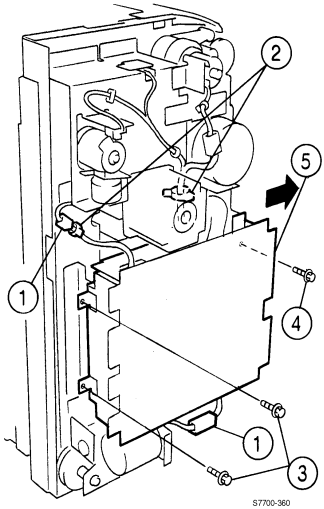


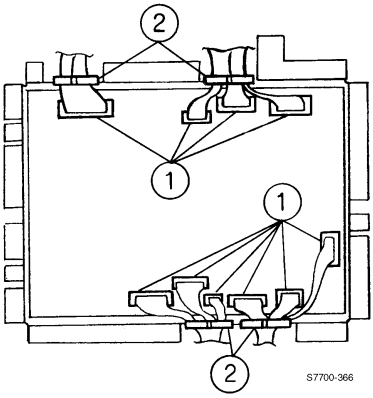


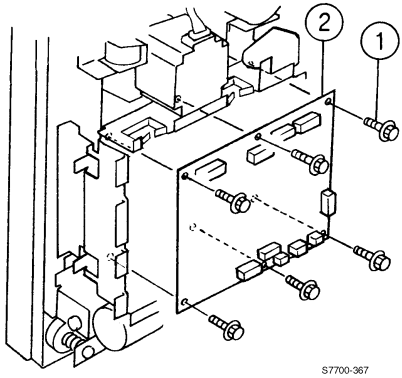
1. Remove the rear and left covers, see page 11-17.
2. Remove sack paper sensor assembly, see page 11-20.
3. Undo the intermediate connector.
4. Remove the right cover.
5. Remove the set camp clutch and gear, see page 11-21.
6. Remove both KL-clips from the set clamp shaft.
7. Push the bearings out of the frame assembly and remove the shaft.

Finisher Control Board, Bracket and Shield









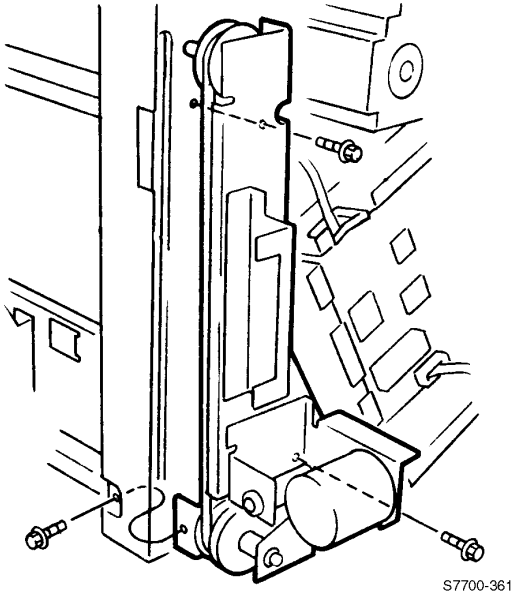
1. Remove the rear cover, see page 11-17.
2. Remove 8 screws and loosen the two bottom screws.
3. Remove finisher control board shield.
4. Undo all the connectors.
5. Remove 2 screws on the left.
6. Loosen 1 screw on the right.
7. Undo one connector.
8. Loosen the outer screws located at the bottom of the finisher control board cover.
9. Remove the 8 remaining cover screws.

10. Remove the finisher control board cover.
11. Remove the 4 wiring connectors.
12. Remove 6 screws from the control board remove.

Note

When reinstalling the cover, do not insert screws into the second or fourth holes at the bottom of the cover as these are used to secure the outer cover.

Stacker Motor Assembly

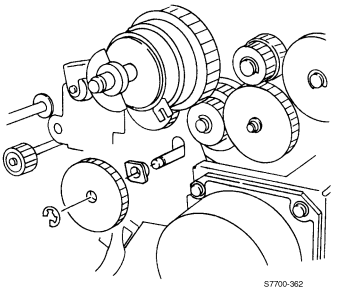


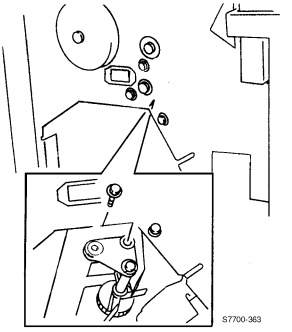
1. Remove the finisher control board bracket, and shield, see page 11-23.
2. Remove 1 connector.
3. Remove 3 screws securing the stacker motor assembly and remove.

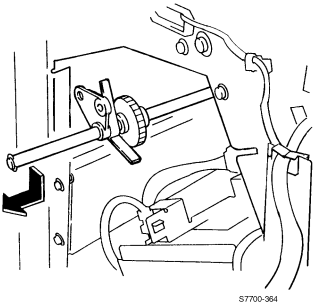
Note

When reinstalling, ensure the gear is engaged and the sensor for the stacker is tripped.

Paddle Shaft

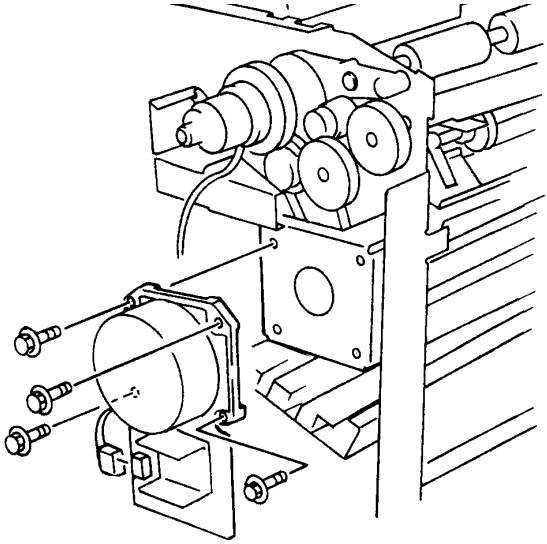






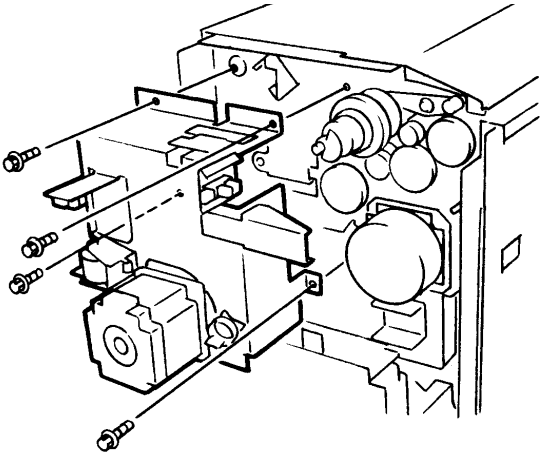
1. Remove the rear, left and right covers, see page 11-17.
2. Remove the cam bracket assembly, see page 11-28.
3. Remove the staple unit, see page 11-29.
4. Remove the e-clips from both ends of the shaft.
5. Remove the gear and bushing from the front end of the shaft.
6. Remove the bushing from the front and slide out the shaft.
7. Remove the bushings and KL-clips from both ends.
8. Slide the shaft to the rear and slide out.

Paper Transport Motor (Motor Assembly Main)



1. Remove the Rear Cover, see page 11-17.
2. Remove 4 screws.
3. Undo the connector and lift the motor up and then out to free the belt.

Cam Bracket Assembly



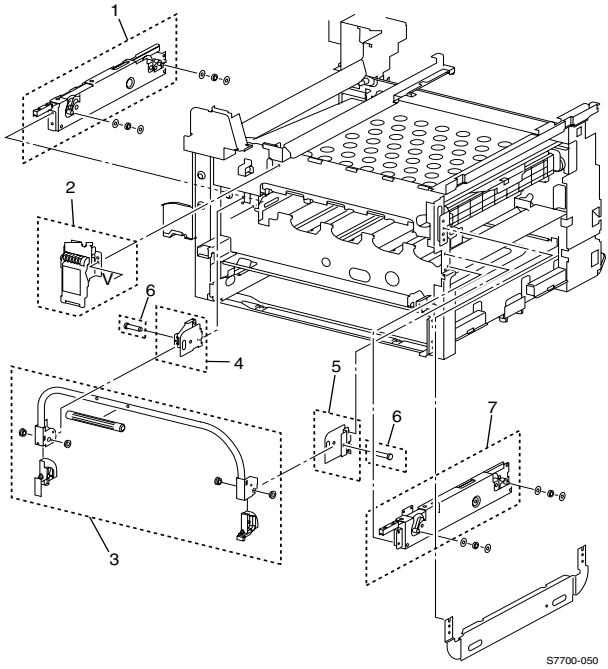
S7700-341

1. Remove the rear and top covers, see page 11-17.
2. Remove 1 screw securing the decurler cam sensor.
3. Remove 1 screw from the eject clamp home sensor.
4. Disconnect the wiring harness from the set clamp home sensor.
5. Remove the wiring harness from the bracket.
6. Disconnect the wiring harness from the eject motor.
7. Remove 4 screws from the bracket and remove the cam bracket assembly.

Note

When reinstalling the cam bracket assembly the manipulate the eject assembly to ensure the gears follow one another from the back of the cam bracket assembly. Manually push the set clamps to engage the gears.

Staple Unit Assembly and Motor



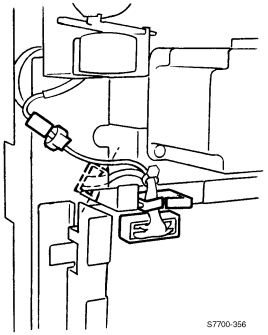
Staple Unit Assembly

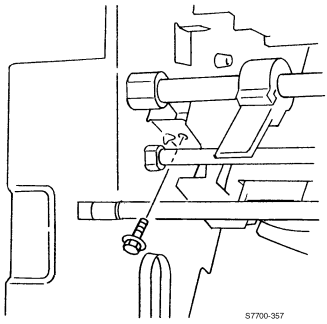
1. Remove the front cover, see page 11-17.
2. Remove the 2 connectors to the staple unit.
3. Remove 2 screws, note: one screw has a ground wire.
4. Pull the staple unit assembly down, tilt up and pull out towards the front.

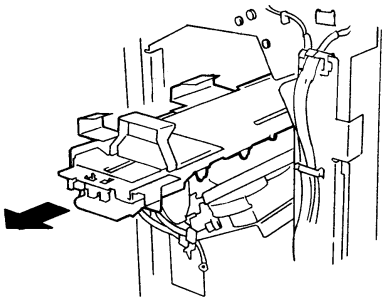
Staple Motor

1. Remove the staple unit assembly.
2. Remove the right cover.
3. Disconnect the wiring harness.
4. Remove 2 screws and remove the motor.

Compiler Tray



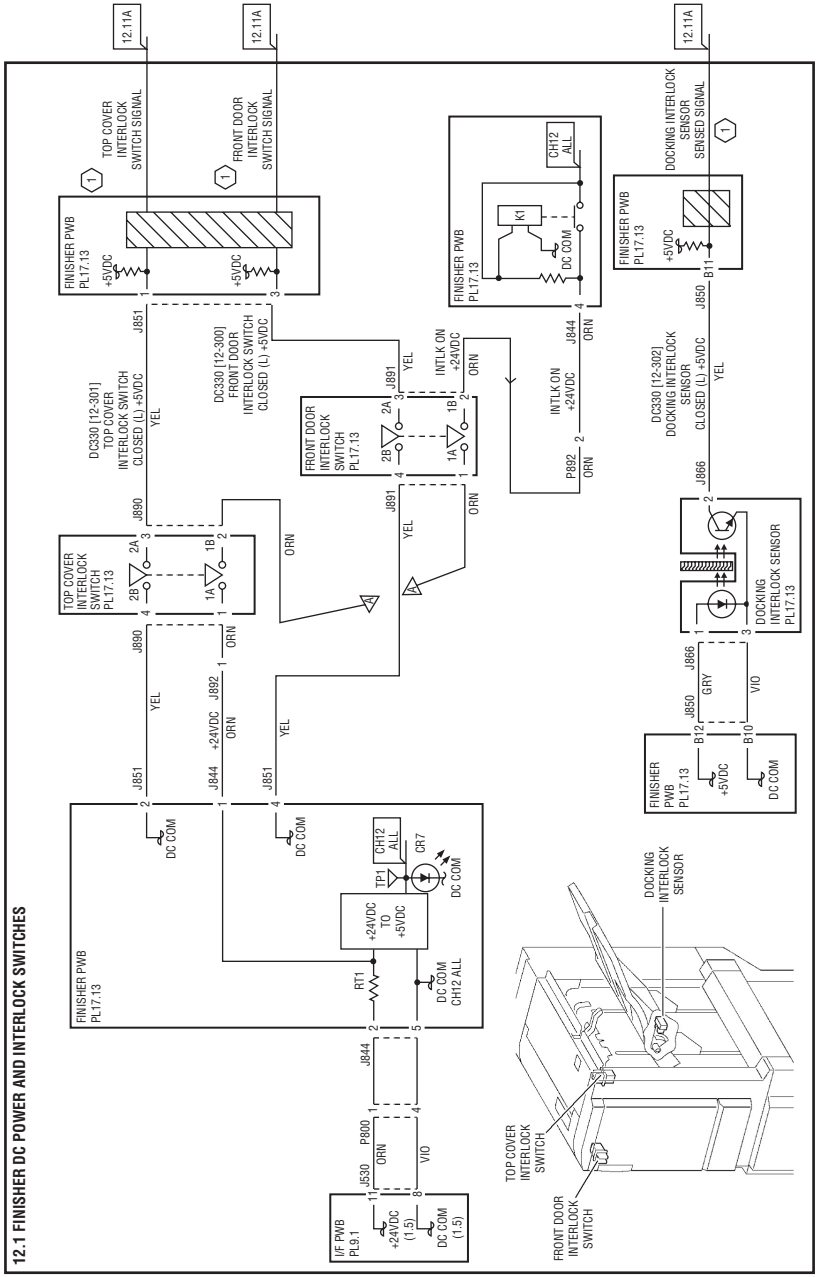




1. Remove all covers, see page 11-17.
2. Remove the finisher control board shield, see page 11-23.
3. Disconnect P848.
4. Remove the set clamp solenoid connector.
5. Remove the staple unit, see page 11-29.
6. Remove 2 screws from the bottom of the tamper assembly, front and rear.
7. Push the wiring harness into the printer frame.
8. Tilt the carriage up and slide straight back letting the carriage drop down in the frame, then slide straight out the stapler cavity.

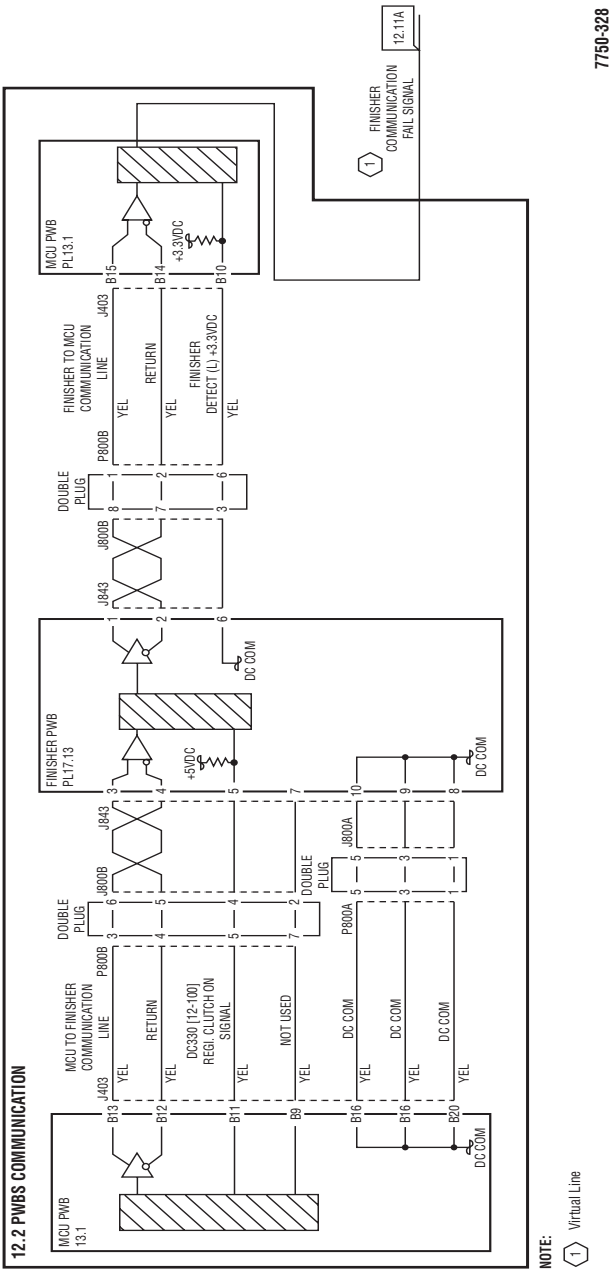
Finisher Wiring Diagrams

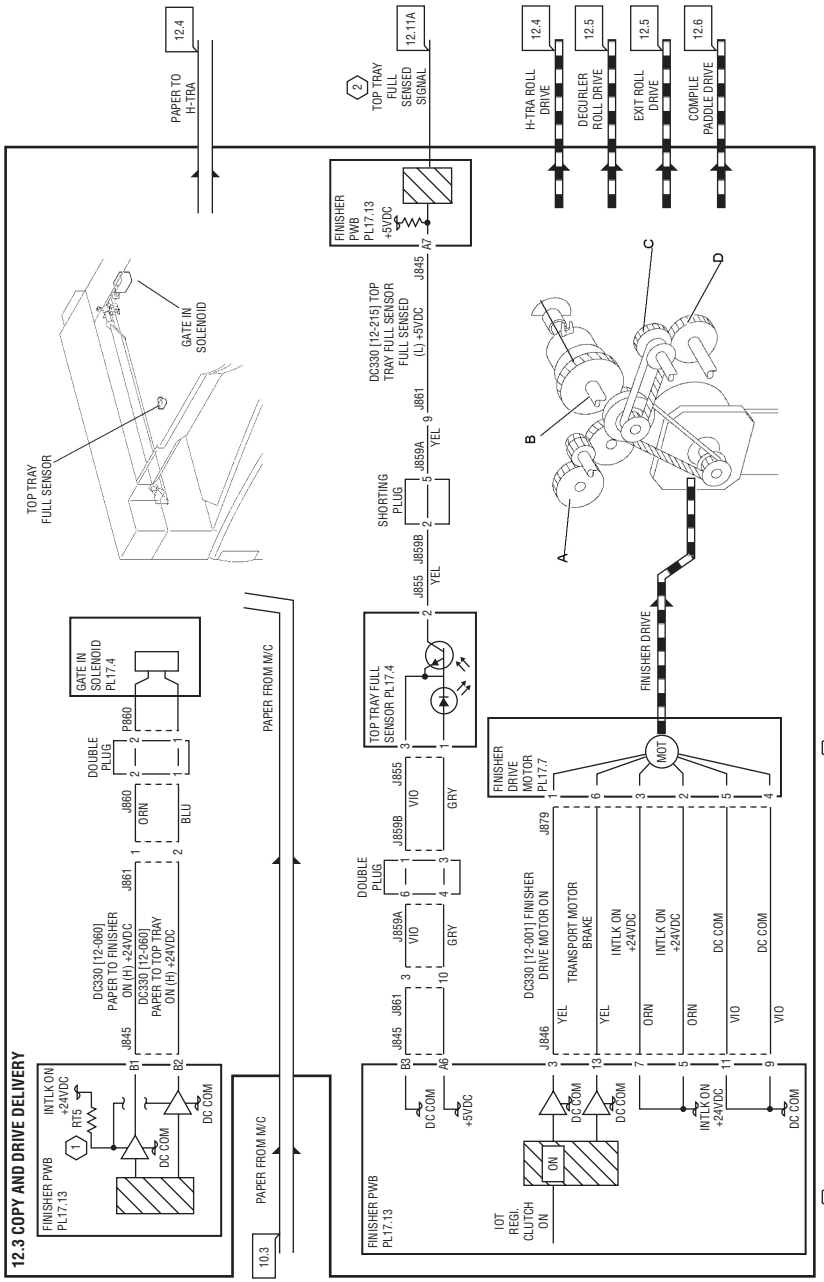
DC Power and Interlock Switches

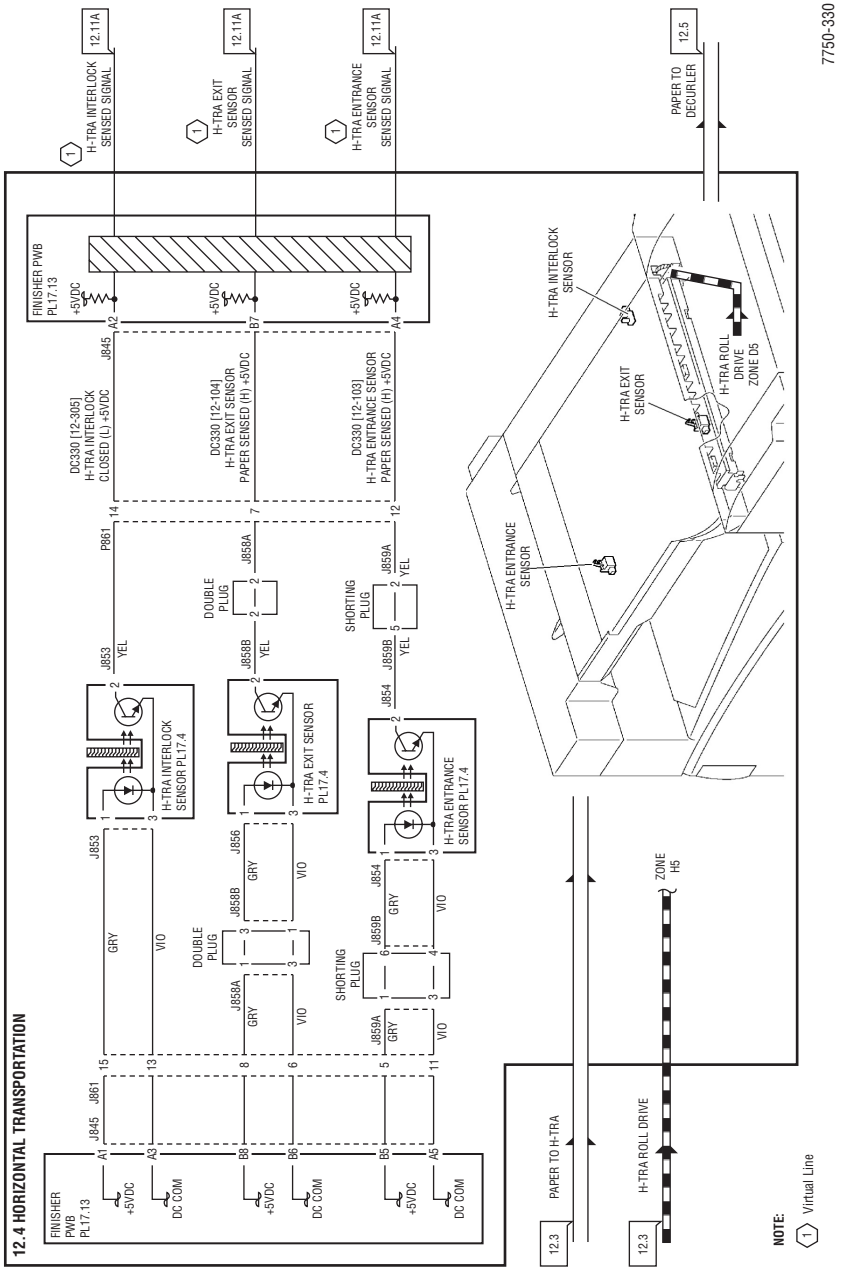


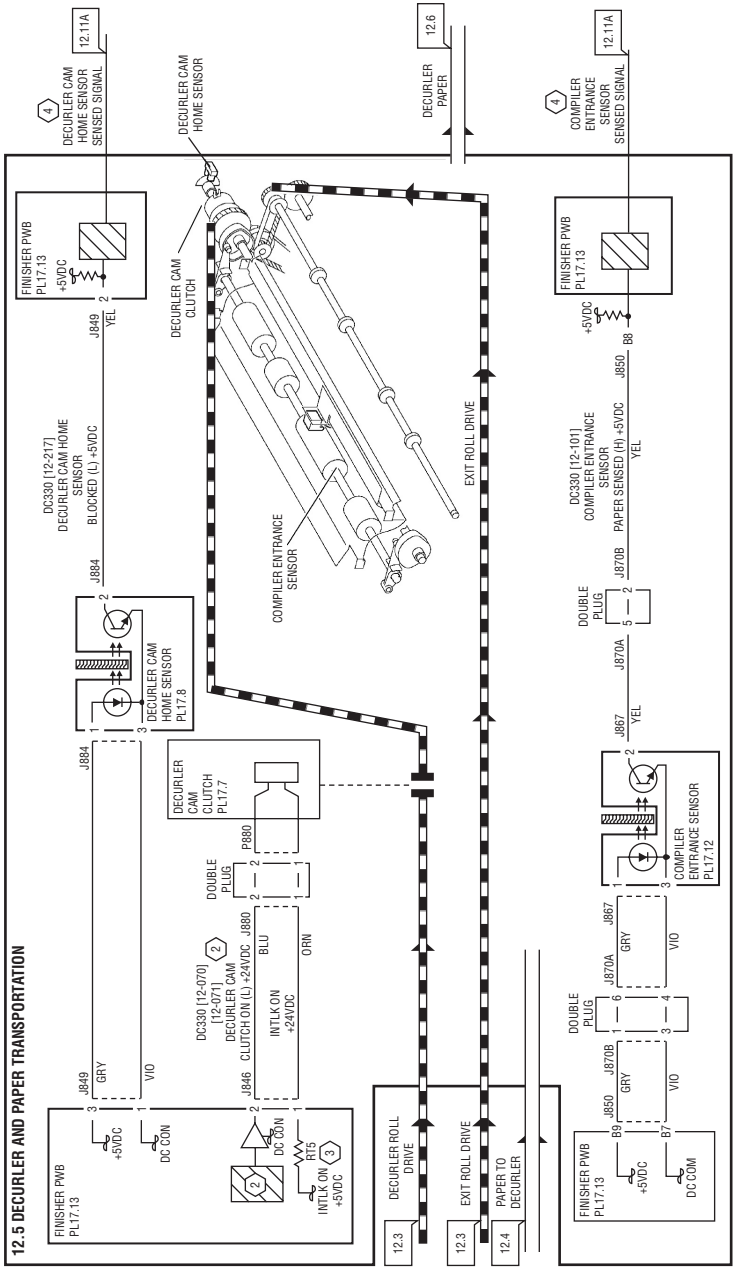
NOTES: 1 Virtual Line 2 When an overcurrent flows, the thermistor has the internal resistance increase to protect the circuit.

7750-327


12.2 PWBS COMMUNICATION
MCU PWB
13.1
J403
B13
B12
B11
B9
B16
B16
B20
DC COM
MCU TO FINISHER COMMUNICATION LINE
YEL
RETURN
DC330 [12-100] REGI. CLUTCH ON SIGNAL
NOT USED
DC COM
DC COM
DC COM
P800B
P800A
DOUBLE PLUG
J800B
J800A
J843
FINISHER PWB
PL17.13
+5VDC
DC COM
FINISHER TO MCU COMMUNICATION LINE
FINISHER DETECT (L) +3.3VDC
+3.3VDC
MCU PWB
PL13.1
B15
B14
B10
1
FINISHER COMMUNICATION FAIL SIGNAL
12.11A
7750-328
NOTE:
1 Virtual Line


12.3 COPY AND DRIVE DELIVERY
FINISHER PWB PL17.13
INTLK ON +24VDC
RT5
DC COM
J845 B1
J861 1
DC330 [12-060] PAPER TO FINISHER ON (H) +24VDC
DC330 [12-060] PAPER TO TOP TRAY ON (H) +24VDC
B2
DC COM
J860 ORN
BLU
DOUBLE PLUG
P860
GATE IN SOLENOID PL17.4
10.3
PAPER FROM M/C
PAPER FROM M/C
TOP TRAY FULL SENSOR
GATE IN SOLENOID
TOP TRAY FULL SENSOR PL17.4
J855 2
J859B VIO
GRY
DOUBLE PLUG
J859A VIO
GRY
FINISHER PWB PL17.13
B3
J845
J861 3
10
A6
DC COM
+5VDC
IOT REGI CLUTCH ON
ON
DC330 [12-011] FINISHER DRIVE MOTOR ON
J846 3
YEL
TRANSPORT MOTOR BRAKE
13
DC COM
YEL
INTLK ON +24VDC
7
DC COM
ORN
INTLK ON +24VDC
5
INTLK ON +24VDC
ORN
11
DC COM
VIO
9
DC COM
VIO
J879
FINISHER DRIVE MOTOR PL17.7
MOT
FINISHER DRIVE
SHORTING PLUG
J859B
J859A
YEL
J855
YEL
J861 9
DC330 [12-215] TOP TRAY FULL SENSOR FULL SENSED (L) +5VDC
J845
FINISHER PWB PL17.13 +5VDC
A7
2
TOP TRAY FULL SENSED SIGNAL
12.11A
PAPER TO H-TRA
12.4
H-TRA ROLL DRIVE
12.4
DECURLER ROLL DRIVE
12.5
EXIT ROLL DRIVE
12.5
COMPILE PADDLE DRIVE
12.6
A
B
C
D
NOTES:
1 When an overcurrent flows, the thermistor has the internal resistance increase to protect the circuit.
1 Virtual Line
7750-329

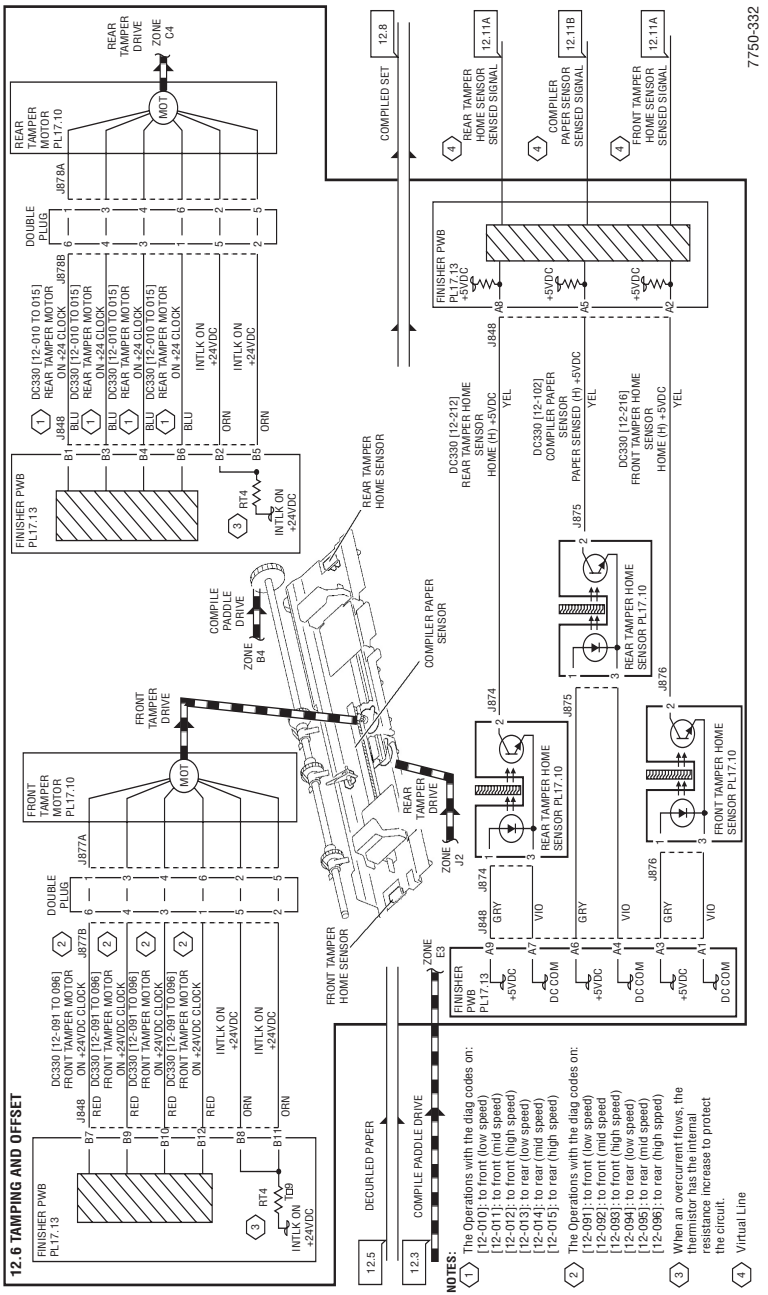

12.4 HORIZONTAL TRANSPORTATION
FINISHER PWB PL17.13
+5VDC
DC COM
H-TRA INTERLOCK SENSED SIGNAL
H-TRA EXIT SENSOR SENSED SIGNAL
H-TRA ENTRANCE SENSOR SENSED SIGNAL
12.11A
DC330 [12-305] H-TRA INTERLOCK CLOSED (L) +5VDC
DC330 [12-104] H-TRA EXIT SENSOR PAPER SENSED (H) +5VDC
DC330 [12-103] H-TRA ENTRANCE SENSOR PAPER SENSED (H) +5VDC
DOUBLE PLUG
SHORTING PLUG
H-TRA INTERLOCK SENSOR PL17.4
H-TRA EXIT SENSOR PL17.4
H-TRA ENTRANCE SENSOR PL17.4
H-TRA INTERLOCK SENSOR
H-TRA EXIT SENSOR
H-TRA ENTRANCE SENSOR
H-TRA ROLL DRIVE ZONE D5
PAPER TO DECURLER
12.5
PAPER TO H-TRA
12.3
H-TRA ROLL DRIVE
ZONE H5
NOTE:
Virtual Line
7750-330

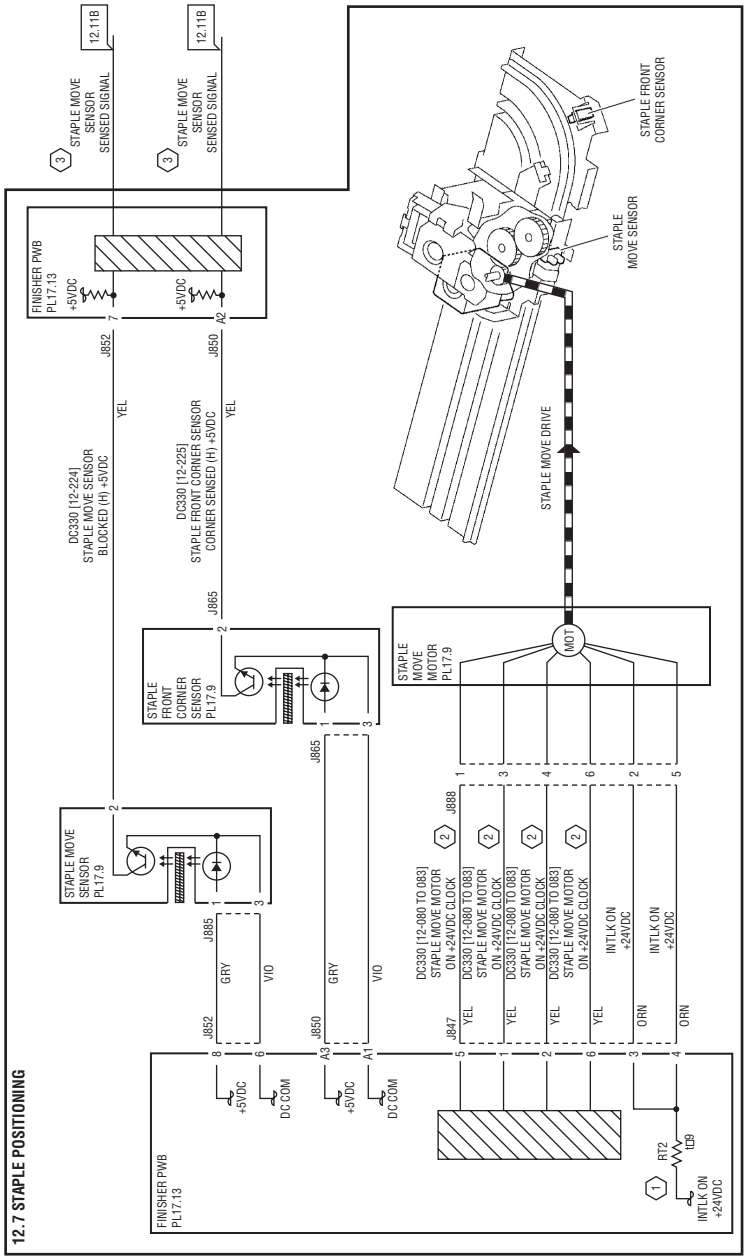


NOTES:

1. When M/C provides the info that one of paper LE and TE has a 10mm-or-more upper curl, Decurler operates. Decurler Cam Clutch is kept on until the Decurler Cam Home Sensor is in the "H" level (receives light= in desurl position). If the sensor is in "L" from the beginning, Decurler doesn't operate.
2. Turning on [12-071] leads to the operation below: Finisher Drive Motor on + Decurler Cam Clutch on Stops with Decurler Cam Home Sensor in "L".
3. When an overcurrent flows, the thermistor has the internal resistance increase to protect the circuit.
4. Virtual Line

7750-331


12.6 TAMPING AND OFFSET
FINISHER PWB PL17.13
DC330 [12-091 TO 096] FRONT TAMPER MOTOR ON +24VDC CLOCK
DC330 [12-091 TO 096] FRONT TAMPER MOTOR ON +24VDC CLOCK
INTLK ON +24VDC
RT4
TD9
INTLK ON +24VDC
DECURLED PAPER
COMPILE PADDLE DRIVE
12.5
12.3
NOTES:
1 The Operations with the diag codes on:
[12-010] : to front (low speed)
[12-011] : to front (mid speed)
[12-012] : to front (high speed)
[12-013] : to rear (low speed)
[12-014] : to rear (mid speed)
[12-015] : to rear (high speed)
2 The Operations with the diag codes on:
[12-091] : to front (low speed)
[12-092] : to front (mid speed
[12-093] : to front (high speed)
[12-094] : to rear (low speed)
[12-095] : to rear (mid speed)
[12-096] : to rear (high speed)
3 When an overcurrent flows, the thermistor has the internal resistance increase to protect the circuit.
4 Virtual Line
FRONT TAMPER MOTOR PL17.10
FRONT TAMPER DRIVE
DOUBLE PLUG
J877A
J877B
FRONT TAMPER HOME SENSOR
ZONE E3
FINISHER PWB PL17.13
J848
+5VDC
DC COM
GRY
VIO
REAR TAMPER HOME SENSOR PL17.10
J874
J875
J876
REAR TAMPER DRIVE
ZONE J2
COMPILE PADDLE DRIVE
ZONE B4
COMPILER PAPER SENSOR
REAR TAMPER HOME SENSOR
DC330 [12-212] REAR TAMPER HOME SENSOR HOME (H) +5VDC
DC330 [12-102] COMPILER PAPER SENSOR PAPER SENSED (H) +5VDC
DC330 [12-216] FRONT TAMPER HOME SENSOR HOME (H) +5VDC
YEL
FINISHER PWB PL17.13 +5VDC
J878B
J878A
DC330 [12-010 TO 015] REAR TAMPER MOTOR ON +24 CLOCK
INTLK ON +24VDC
ORN
BLU
REAR TAMPER MOTOR PL17.10
REAR TAMPER DRIVE
ZONE C4
COMPILED SET
12.8
REAR TAMPER HOME SENSOR SENSED SIGNAL
COMPILER PAPER SENSOR SENSED SIGNAL
FRONT TAMPER HOME SENSOR SENSED SIGNAL
12.11A
12.11B
12.11A
7750-332

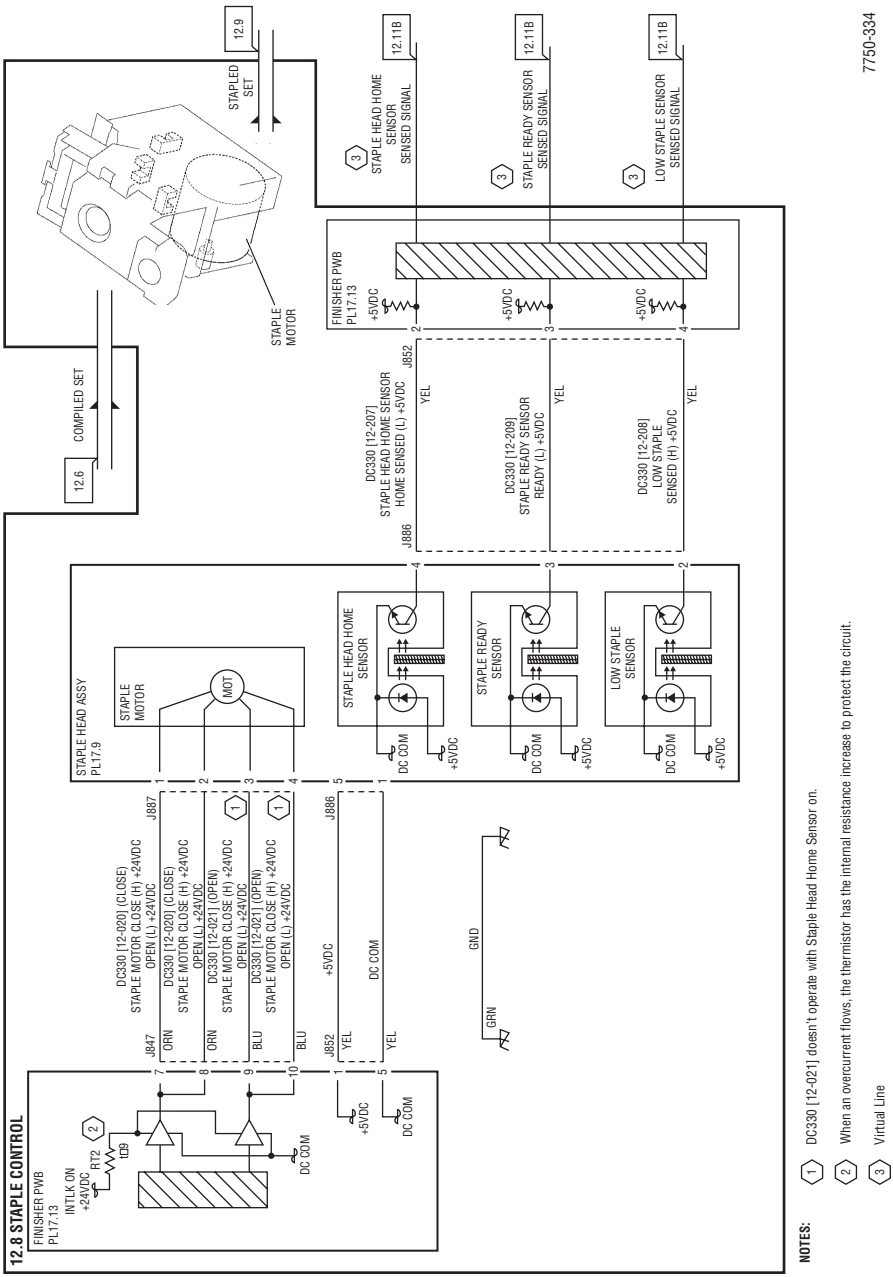


1 When an overcurrent flows the thermistor has the internal resistance increase to protect the circuit.

1 The operations with the drag codes on:
[12-080] to front (high speed)
[12-081] to front (low speed)
[12-082] to rear (high speed)
[12-083] to rear (low speed)

3 Virtual Line

7750-333

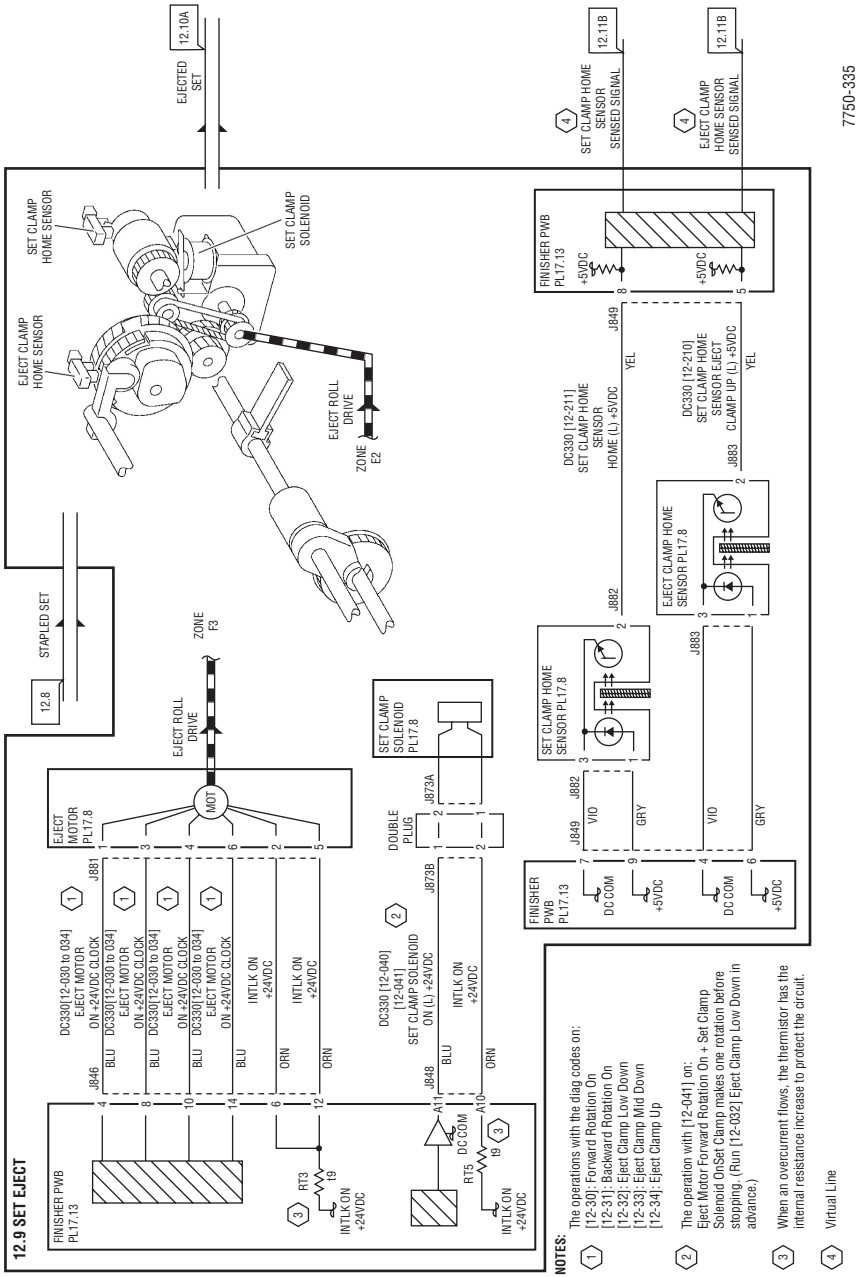


NOTES:

1. DC330 [12-021] doesn't operate with Staple Head Home Sensor on.
2. When an overcurrent flows, the thermistor has the internal resistance increase to protect the circuit.
3. Virtual Line

7750-334

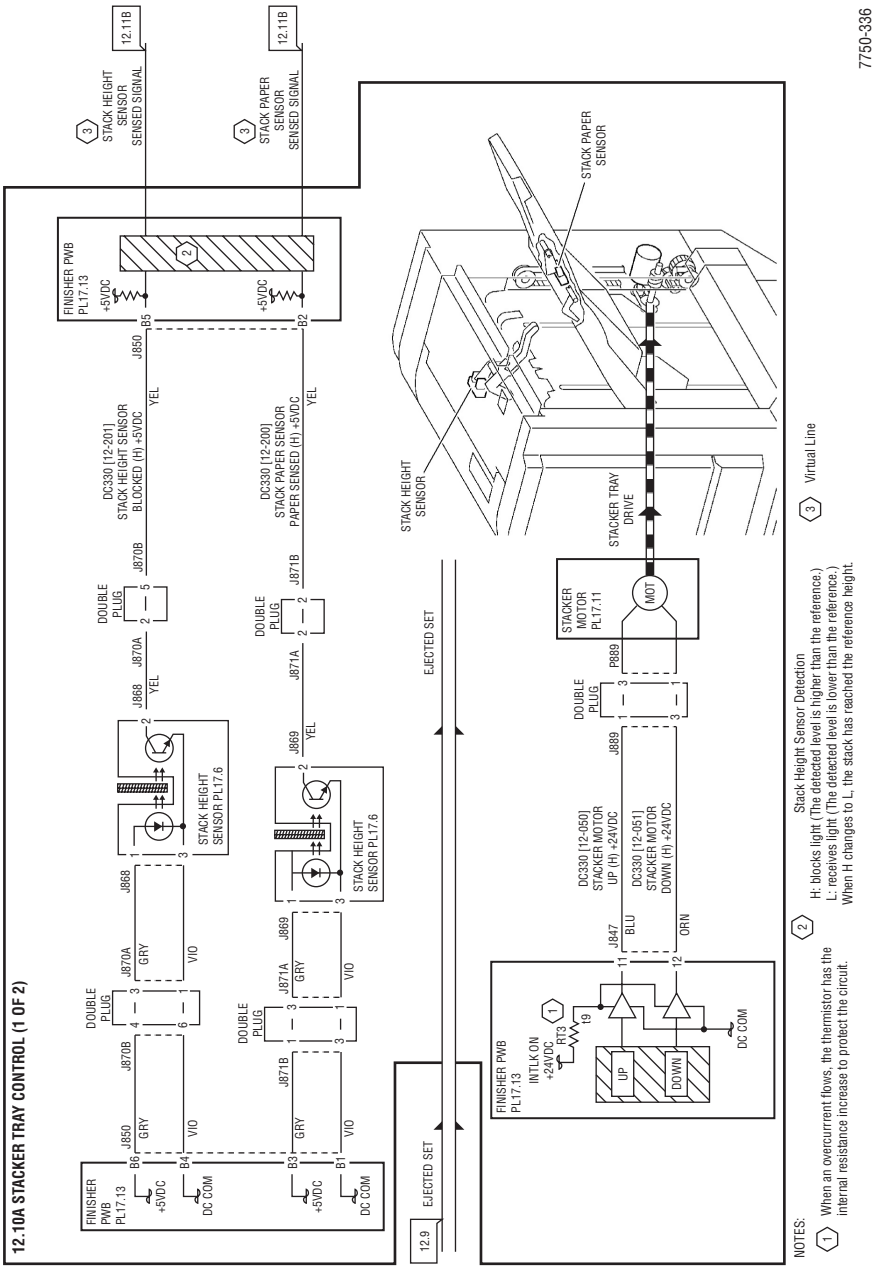
Set Eject

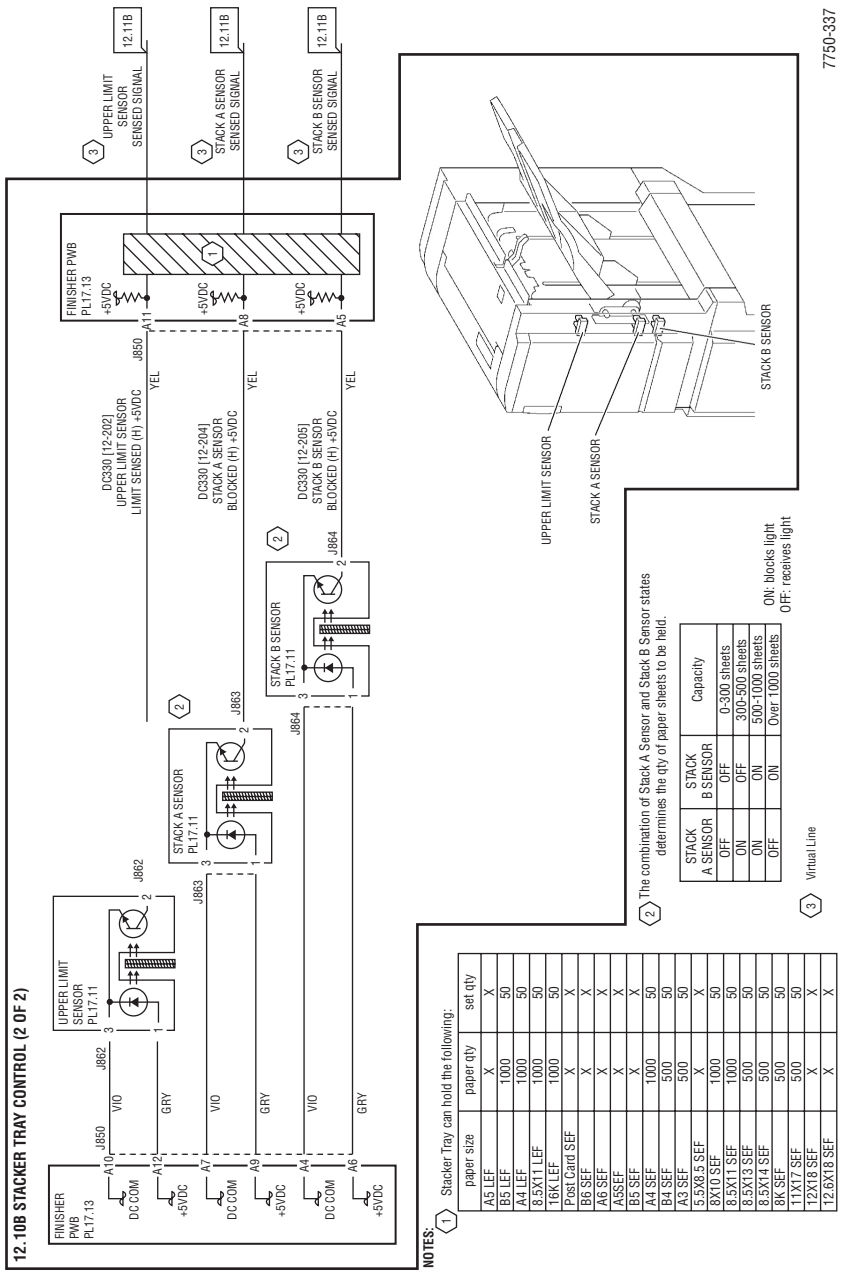


NOTES:

1. The operations with the diag codes on:
   [12-30]: Forward Rotation On
   [12-31]: Backward Rotation On
   [12-32]: Eject Clamp Low Down
   [12-33]: Eject Clamp Mid Down
   [12-34]: Eject Clamp Up
2. The operation with [12-041] on:
   Eject Motor Forward Rotation On + Set Clamp Solenoid OnSet Clamp makes one rotation before stopping. (Run [12-032] Eject Clamp Low Down in advance.)
3. When an overcurrent flows, the thermistor has the internal resistance increase to protect the circuit.
4. Virtual Line

7750-335


12.10A STACKER TRAY CONTROL (1 OF 2)
FINISHER PWB PL17.13
+5VDC
DC COM
J850
B6
B4
GRY
VIO
J870B
DOUBLE PLUG
J870A
J868
STACK HEIGHT SENSOR PL17.6
J871B
J871A
J869
STACK HEIGHT SENSOR PL17.6
12.9
EJECTED SET
FINISHER PWB PL17.13
INTLK ON +24VDC
RT3
J847
BLU
ORN
DC330 [12-050] STACKER MOTOR UP (H) +24VDC
DC330 [12-051] STACKER MOTOR DOWN (H) +24VDC
UP
DOWN
DC COM
STACKER MOTOR PL17.11
MOT
P889
J889
STACKER TRAY DRIVE
STACK HEIGHT SENSOR
STACK PAPER SENSOR
FINISHER PWB PL17.13
+5VDC
J850
YEL
J870B
J870A
J868
J869
J871A
J871B
DC330 [12-201] STACK HEIGHT SENSOR BLOCKED (H) +5VDC
DC330 [12-200] STACK PAPER SENSOR PAPER SENSED (H) +5VDC
STACK HEIGHT SENSOR SENSED SIGNAL
STACK PAPER SENSOR SENSED SIGNAL
12.11B
NOTES:
When an overcurrent flows, the thermistor has the internal resistance increase to protect the circuit.
Stack Height Sensor Detection
H: blocks light (The detected level is higher than the reference.)
L: receives light (The detected level is lower than the reference.)
When H changes to L, the stack has reached the reference height.
Virtual Line
7750-336

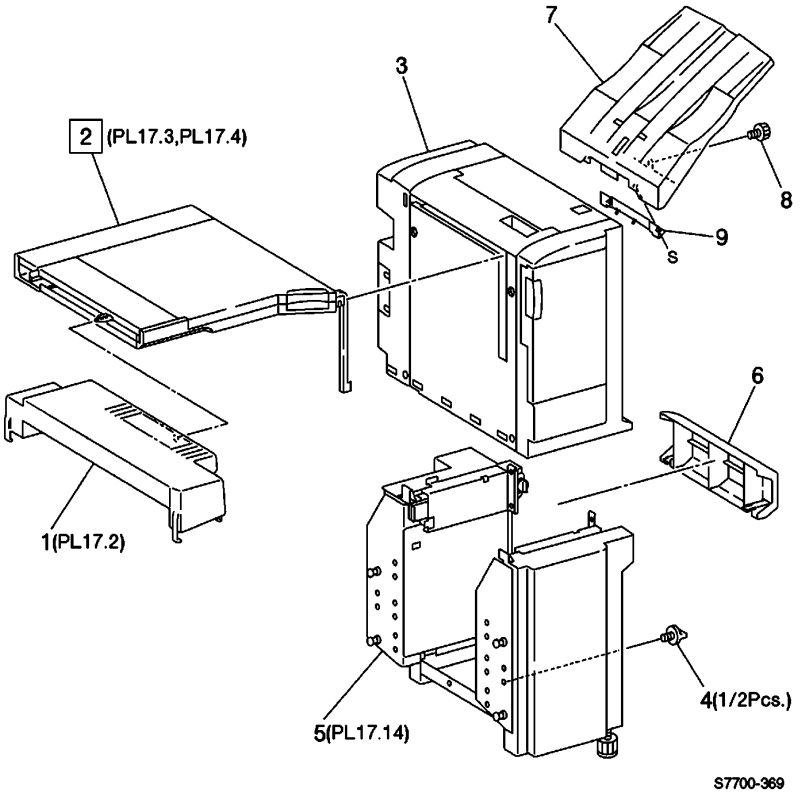


paper size	paper qty	set qty
A5 LEF	X	X
B5 LEF	1000	50
A4 LEF	1000	50
8.5X11 LEF	1000	50
16K LEF	1000	50
Post Card SEF	X	X
B6 SEF	X	X
A6 SEF	X	X
A5SEF	X	X
B5 SEF	X	X
A4 SEF	1000	50
B4 SEF	500	50
A3 SEF	500	50
5.5X8.5 SEF	X	X
8X10 SEF	1000	50
8.5X11 SEF	1000	50
8.5X13 SEF	500	50
8.5X14 SEF	500	50
8K SEF	500	50
11X17 SEF	500	50
12X18 SEF	X	X
12.6X18 SEF	X	X

STACK A SENSOR	STACK B SENSOR	Capacity
OFF	OFF	0-300 sheets
ON	OFF	300-500 sheets
ON	ON	500-1000 sheets
OFF	ON	Over 1000 sheets

Finisher Service Parts List

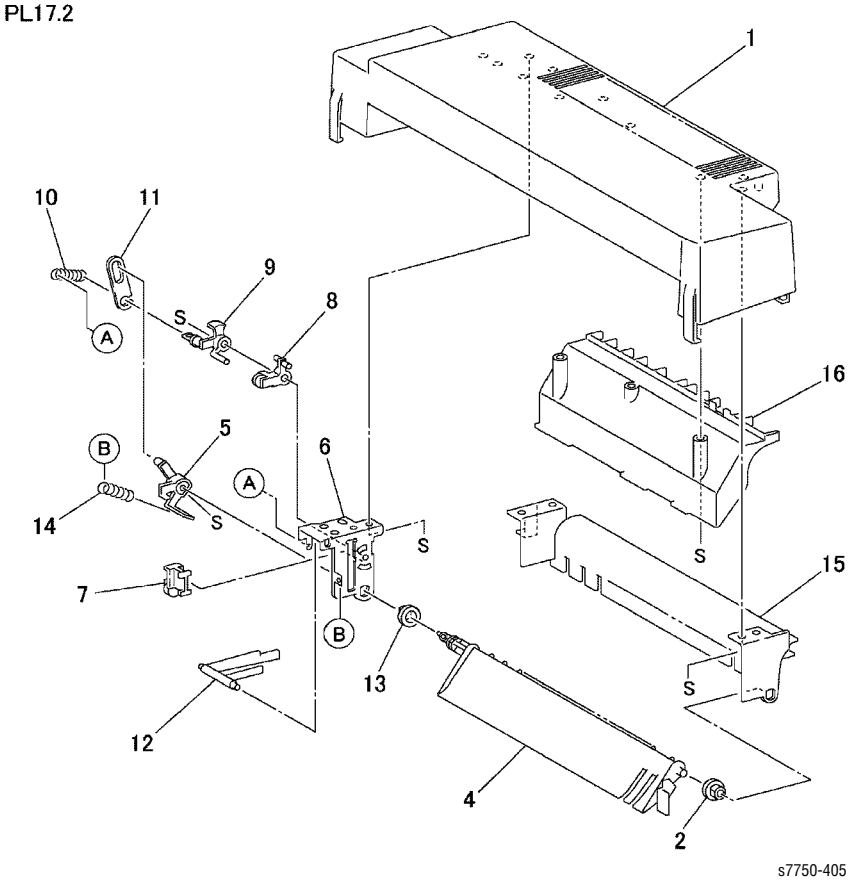
PL 17.1 Finisher



Finisher PL 17.1

No.	Part Number	Qty	Description
1	116-1292-00	1	Gate Cover
2	116-1280-01	1	H-Transport Assembly
3			Staple Finisher
4	116-1821-00		Thumbscrew
5			Rack Assembly
6	116-1244-00	1	Right Cover
7	116-1278-00	1	Stacker Tray
8	116-1279-00	1	Screw
9			Bracket
10			Front Bracket
11			Stud Screw
12			Rear Bracket

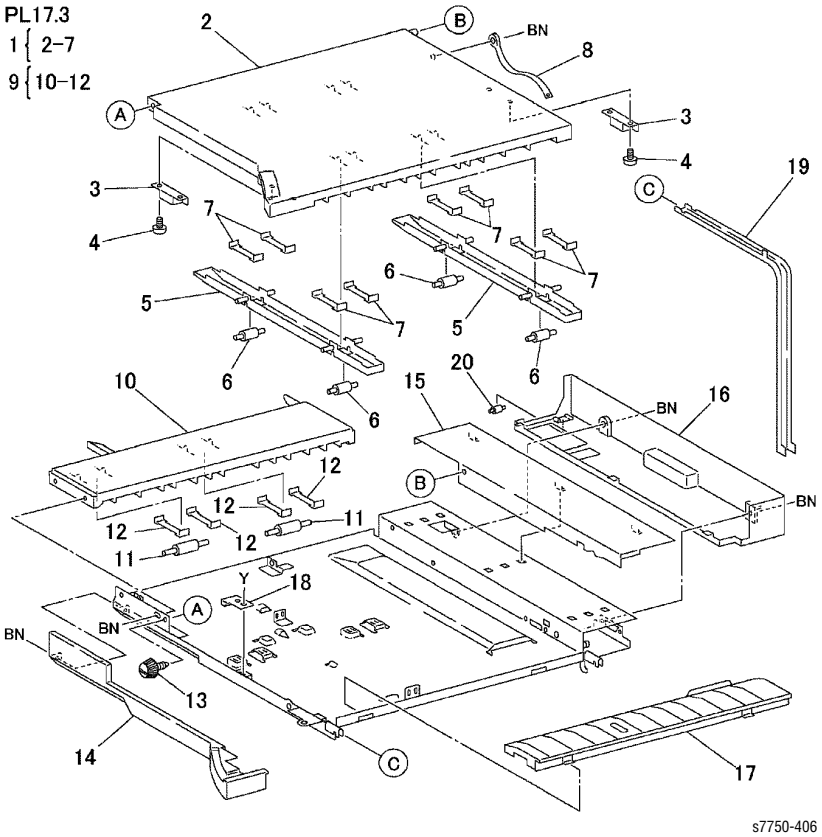
PL 17.2 Gate Assembly



Gate Assemblies PL 17.2

No.	Part Number	Qty	Description
1	116-1292-00		Gate Cover
2			Bearing
3	116-1293-00		Gate Assembly {items 4 - 14}
4			In Gate
5			In Gate Lever
6	116-1294-00		Gate Bracket

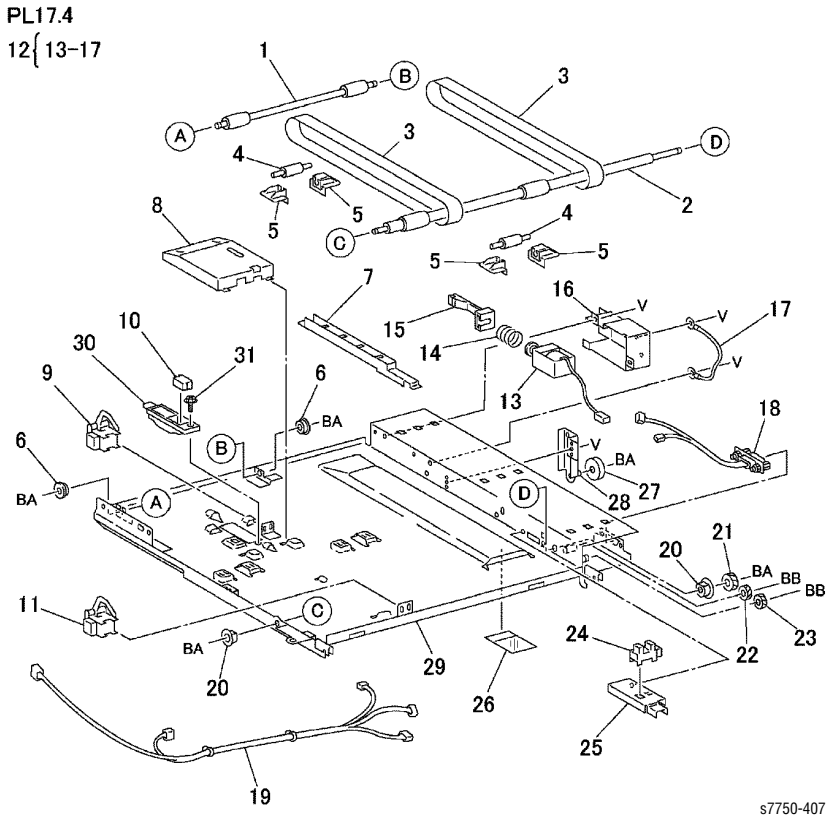
PL 17.3 Horizontal Transport Assembly: 1 of 2



H-Transport Assembly: 1 of 2 PL 17.3

No.	Part Number	Qty	Description
1	116-1290-00		H-Transport Cover Assembly
3	116-1291-00		Magnet
4			Screw
6	116-1246-00		Roll
9	116-1289-00		Entrance Upper Cover Assembly
13	116-1821-00		Thumbscrew
14	116-1259-00		Front Cover
15	116-1261-00		Upper Rear Cover
16	116-1263-00		Rear Cover

PL 17.4 Horizontal Transport Assembly: 2 of 2



Horizontal Transport Assembly: 2 of 2 PL 17.4

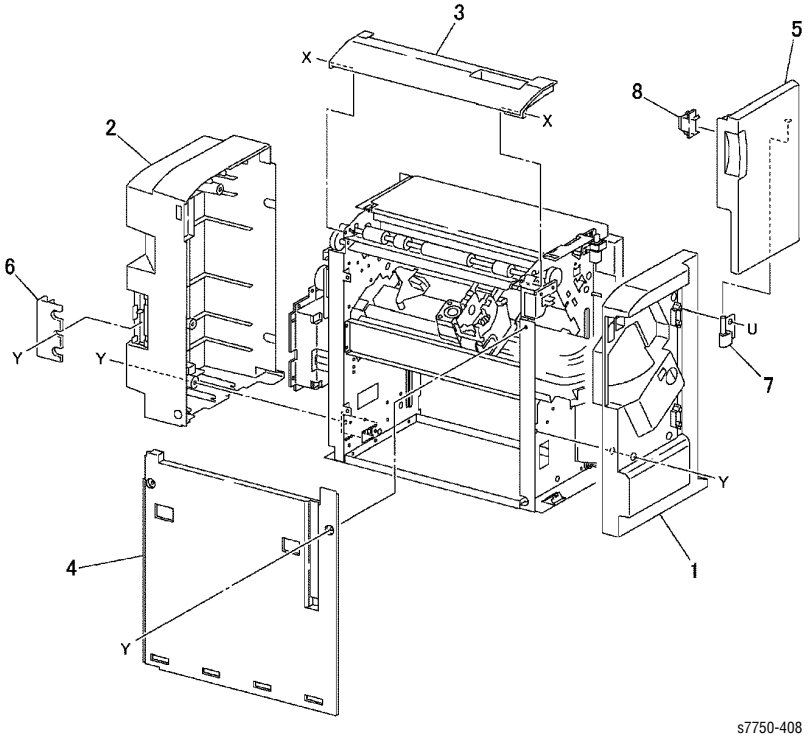
No.	Part Number	Qty	Description
1			H-Transport Roll (in)
2			H-Transport Roll (out)
3	116-1284-00	1	H-Transport Belt
4			Roll
5			Support
6		1	Bearing
7			Harness Guide
8			Cover
9	116-1644-00		Entrance Sensor

Horizontal Transport Assembly: 2 of 2 PL 17.4

No.	Part Number	Qty	Description
10	116-1285-00		Top Tray Full Sensor
11	116-1247-00		Exit Sensor
12	116-1286-00		Gate In Solenoid Assembly
13			Gate in Solenoid
14			Spring {p/o item 12}
15			Link
16			Cover
17			Ground Wire
18			Wire Harness
19			Wire Harness
20			Bearing
21	116-1281-00		Gear (37T)
22	116-1282-00		Gear (30T)
23	116-1283-00		Gear (26T)
24	116-1234-00		Interlock Sensor
25			Bracket
26	116-1267-00		Paper Guide
27			Roll
28			Bracket
29			Frame
30			Bracket
31			Screw

PL 17.5 Covers

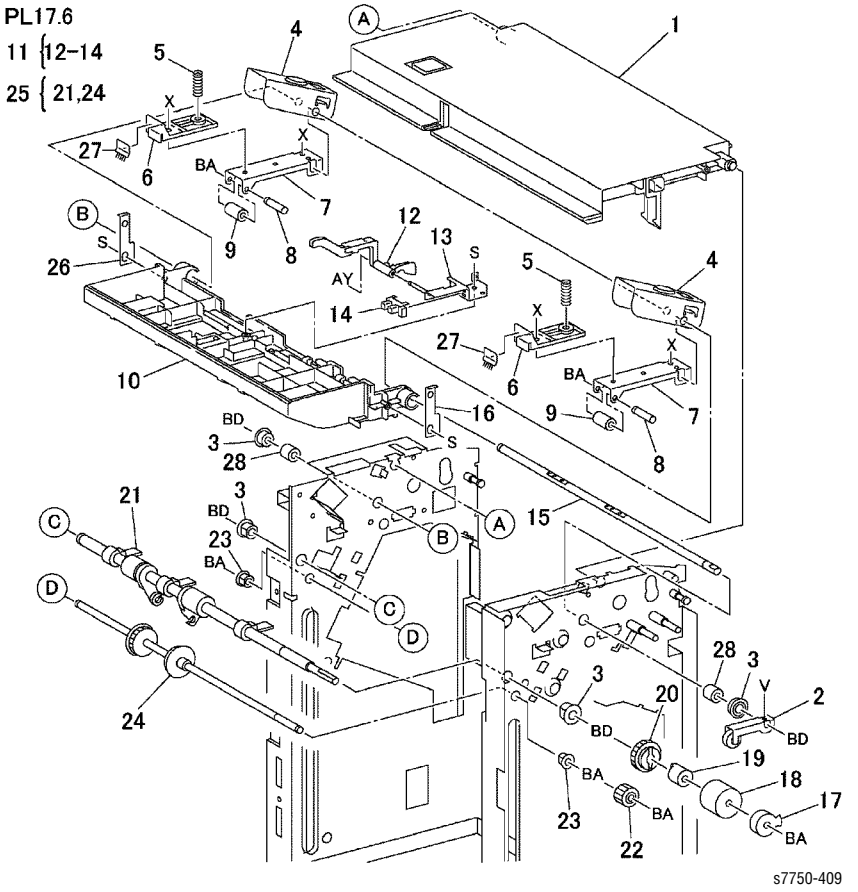
PL17.5



Covers PL 17.5

No.	Part Number	Qty	Description
1	116-1238-00		Front Cover
2	116-1239-00		Rear Cover
3	116-1236-00		Top Cover
4	116-1237-00		Left Cover
5	116-1245-00		Front Cover Door
6			Left Panel
7			Hinge N/S
8	116-1844-00		Magnet

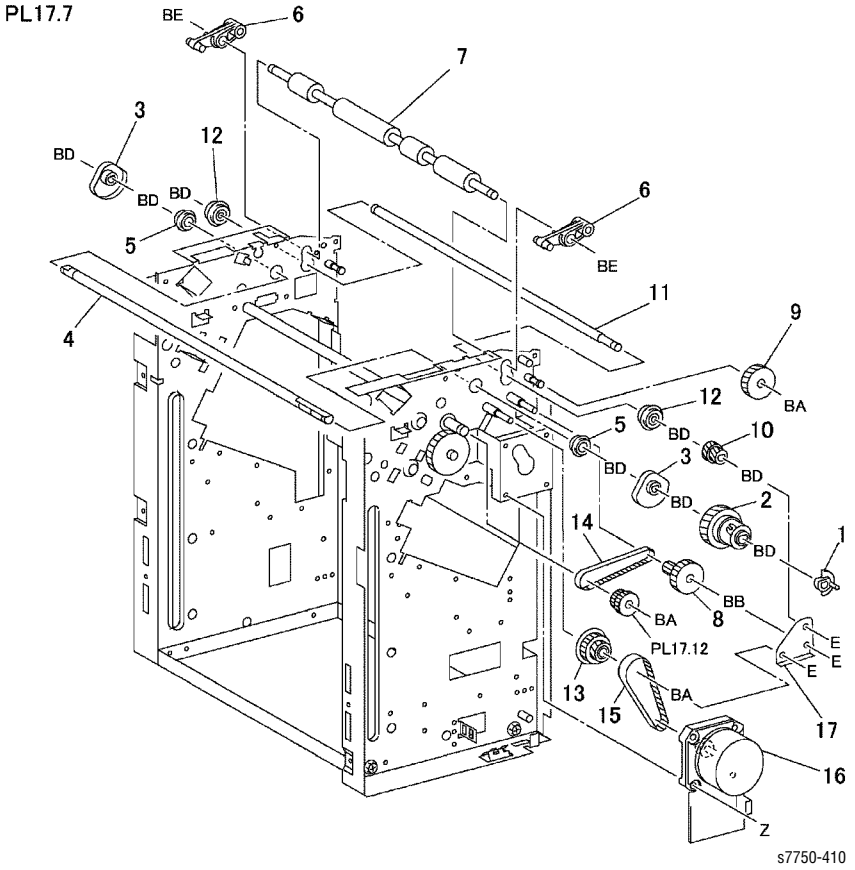
PL 17.6 Top Cover and Eject Roll



Top Cover and Eject Roll PL 17.6

No.	Part Number	Qty	Description
1	116-1262-00	1	Top Open Cover Assembly
2			Arm
3			Bearing
4			Bracket
5			Spring
6			Support
7			Bracket
8			Shaft
9	116-1302-00	1	Eject Pinch Roll
10	116-1823-00	1	Eject Chute
11	116-1272-00	1	Stack Height Sensor Assembly
12		1	Actuator
13			Bracket
14	116-1253-00	1	Stack Height Sensor
15			Shaft
16			Link
17	116-1264-00	1	Actuator
18	116-1258-00		Clutch
19			Collar
20	116-1848-00	1	Gear (28Z) part of a kit
21			Eject Roll
22	116-1848-00	1	Gear (20T) part of a kit
23			Bearing
24			Eject Shaft
25	116-1302-00	1	Eject Roll Assembly
26			Link
27			Static Eliminator
28			Collar

PL 17.7 Paper Transport: 1 of 2

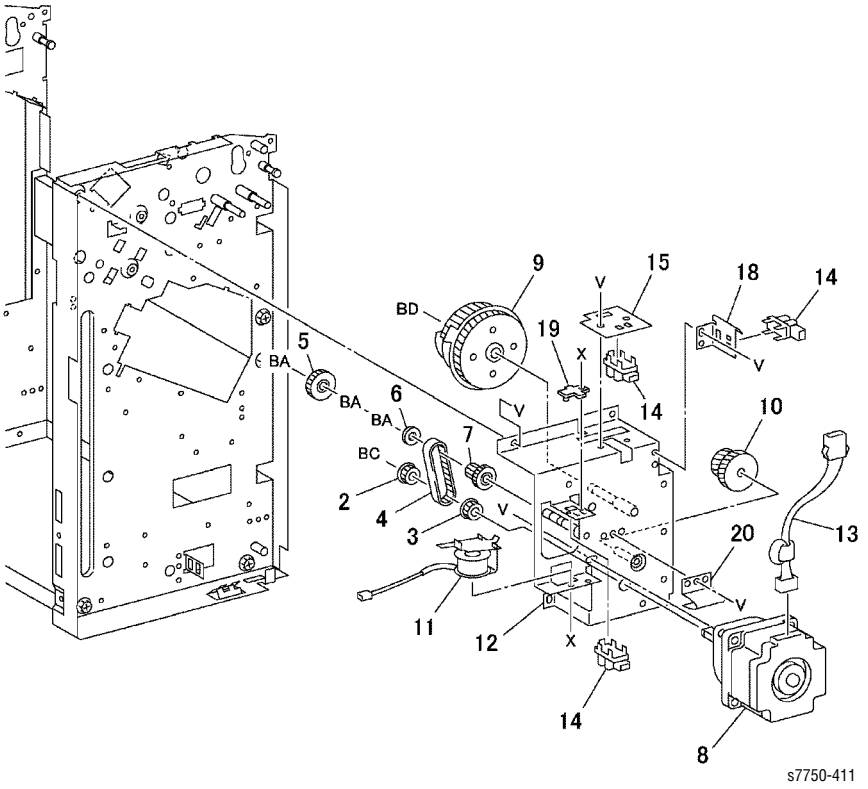


Paper Transport: 1 of 2 PL 17.7

No.	Part Number	Qty	Description
1	116-1248-00	1	Actuator Cam
2	116-1249-00	1	Clutch Assembly, Decurler Cam
3			Cam
4			Shaft
5			Bearing
6	116-1250-00	1	Arm
7	116-1302-00	1	Decurler Roll
8	116-1847-00	1	Gear (40Z / 20T) - part of a kit
9	116-1847-00	1	Gear (40Z) - part of a kit
10	116-1847-00	1	Gear (18Z / 21T) - part of a kit
11			Shaft
12			Bearing
13	116-1847-00	1	Gear (23Z / 52Z) - part of a kit
14	116-1265-00	1	Belt
15	116-1242-00	1	Belt
16	116-1241-00	1	Finisher Drive Motor
17			Bracket

PL 17.8 Paper Transport: 2 of 2

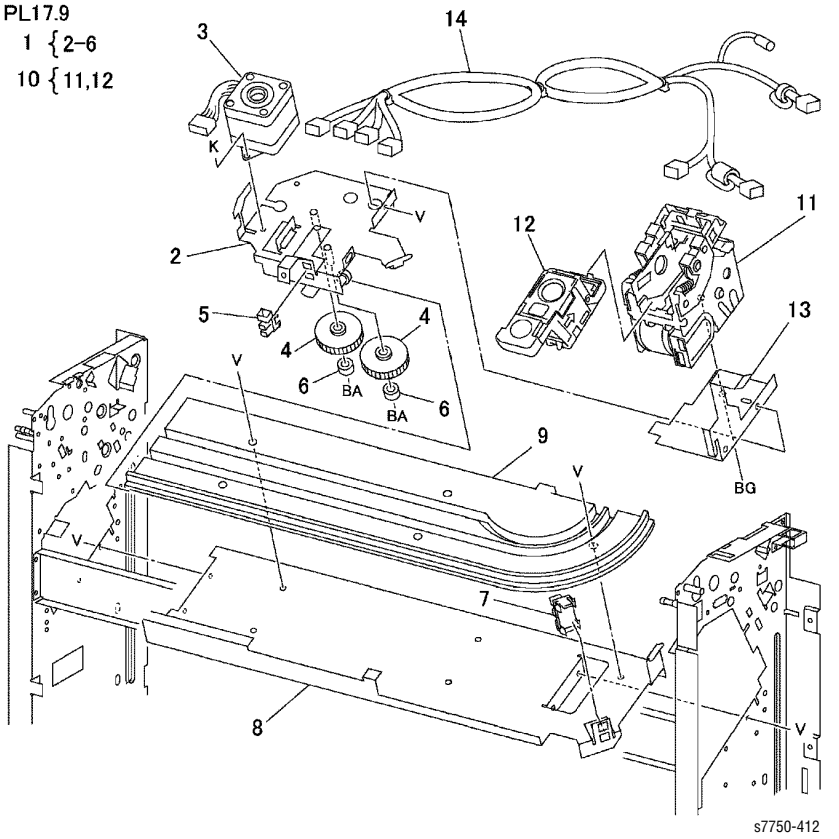
PL17.8
1 { 2–12,14,19



Paper Transport: 2 of 2 PL 17.8

No.	Part Number	Qty	Description
1	116-1266-00	1	Cam Bracket Assembly
2	116-1847-00	1	Pully - part of a kit
3	116-1847-00	1	Gear (15Z) - part of a kit
4	116-1271-00	1	Belt
5	116-1847-00	1	Gear (30Z) - part of a kit
6			Collar
7	116-1847-00	1	Gear Pully - part of a kit
8			Eject Motor
9	116-1847-00	1	Cam Gear - part of a kit
10	116-1847-00	1	Gear (42Z / 27Z) - part of a kit
11			Set Clamp Solenoid
12			Bracket
13			Wire Harness
14	116-1234-00	1	Home Sensor
15			Plate
16			
17			
18			Bracket
19			Stop
20			Spring

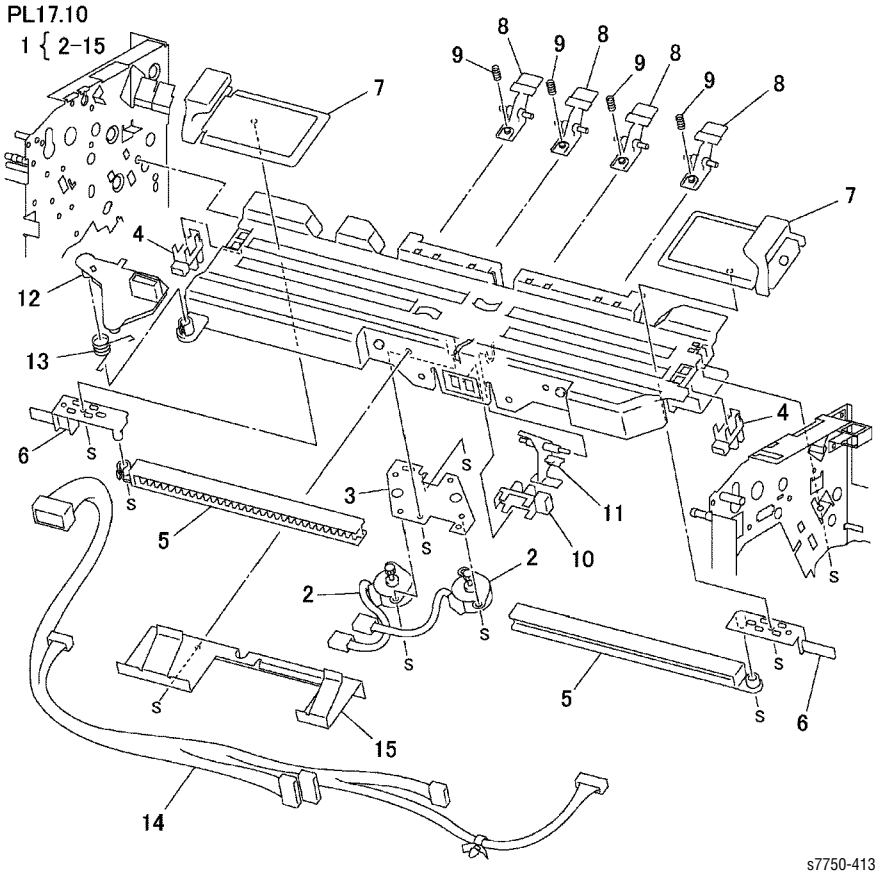
PL 17.9 Staple Unit Assembly



Staple Unit Assembly PL 17.9

No.	Part Number	Qty	Description
1	116-1255-00	1	Carriage Assembly (Item 2-6)
2			Bracket Assembly
3	116-1256-00	1	Staple Move Motor
4			Gear
5			Staple Sensor
6			Roll
7	116-1259-00	1	Staple Front Corner Sensor
8			Plate
9	116-1254-00	1	Rail (REP 17.9.1)
10	116-1257-00	1	Stapler Assembly (Item 11.12) (REP 17.9.2)
11			Stapler
12			Cartridge
13			Bracket
14			Stapler Harness

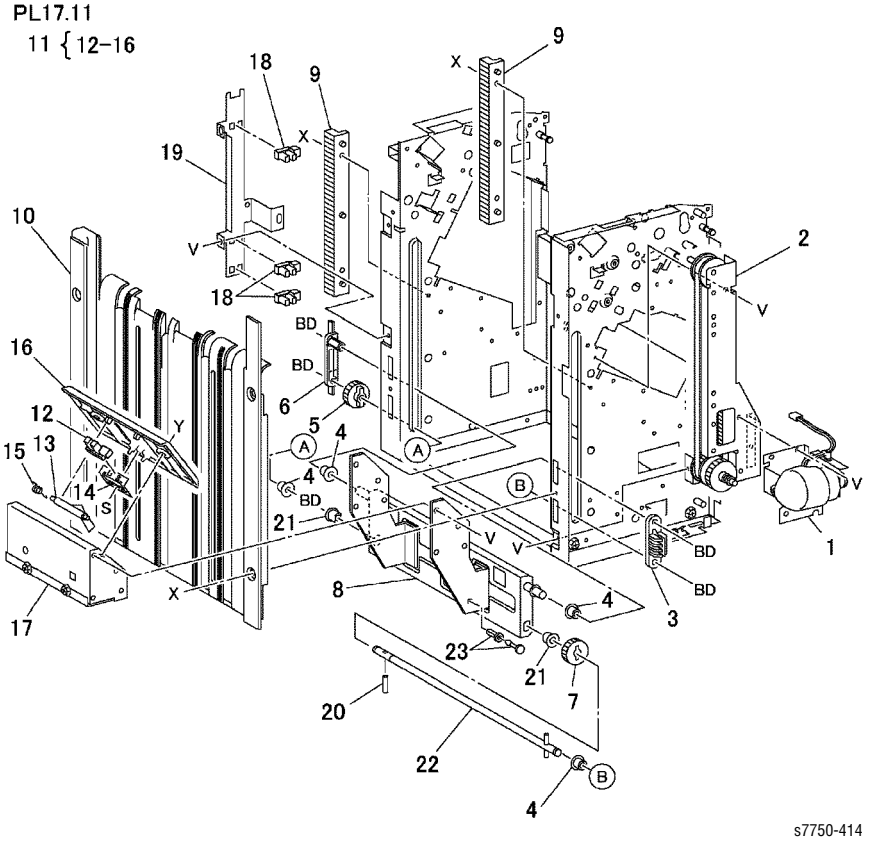
PL 17.10 Compiler Tray Assembly



Compiler Tray Assembly PL 17.10

No.	Part Number	Qty	Description
1	116-1251-00	1	Compiler Tray Assembly (Item 2-15)
2	116-1252-00	1	Front/Rear Tamper Motor Assembly
3			Plate
4	116-1253-00	1	Front /Rear Tamper Home Sensor
5			Rack
6			Actuator
7			Tamper
8			Finger
9			Spring
10	116-1234-00	1	Compiler Paper Sensor
11			Actuator
12	116-1845-00		Paper Guide
13	116-1269-00	1	Spring
14			Wire Harness
15			End Guide

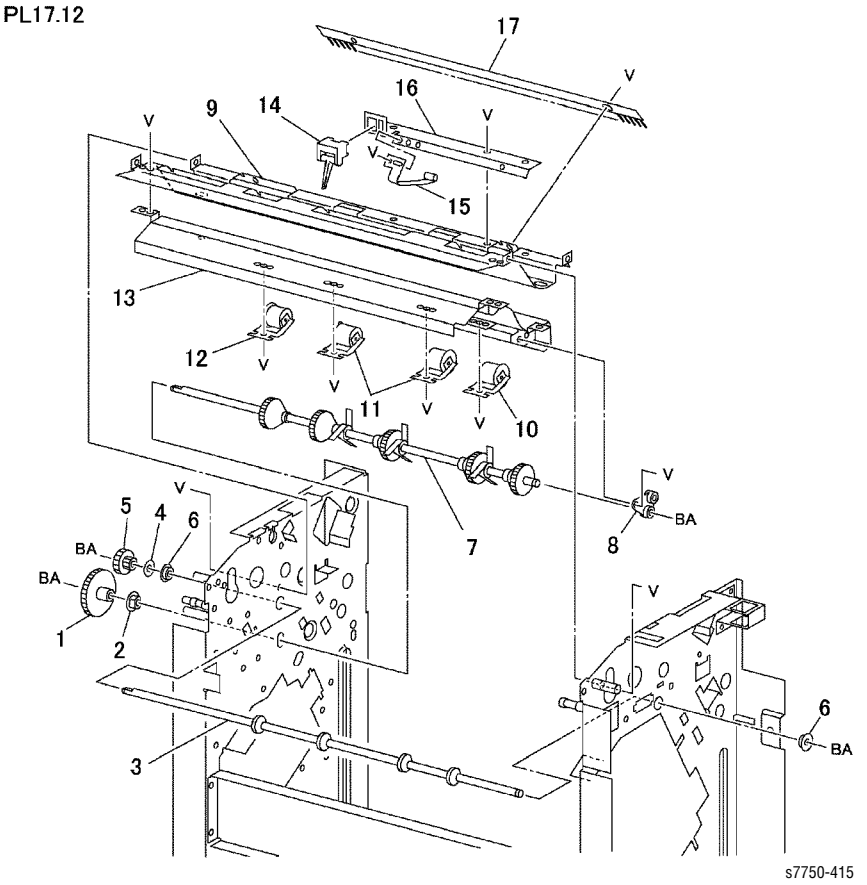
PL 17.11 Stacker Elevator Assembly



Stacker Elevator Assembly PL 17.11

No.	Part Number	Qty	Description
1	116-1287-00	1	Stacker Motor Assembly
2	116-1276-00	1	Front Elevator Bracket
3			Clamp
4			Bearing
5	116-1274-00	1	Gear (Rear)
6			Actuator
7	116-1275-00	1	Gear (Front)
8			Stacker Tray Bracket Assembly
9	116-1273-00	1	Rack
10			Tray Guide
11	116-1270-00	1	Paper Stack Assembly (Item 12-16)
12	116-1253-00	1	Sensor
13			Actuator
14			Bracket
15			Spring
16			Cover
17			Bracket
18	116-1253-00		Upper Limit /Stack A /Stack B Sensor
19			Bracket
20			Pin
21			Bearing
22			Shaft
23			Rivot

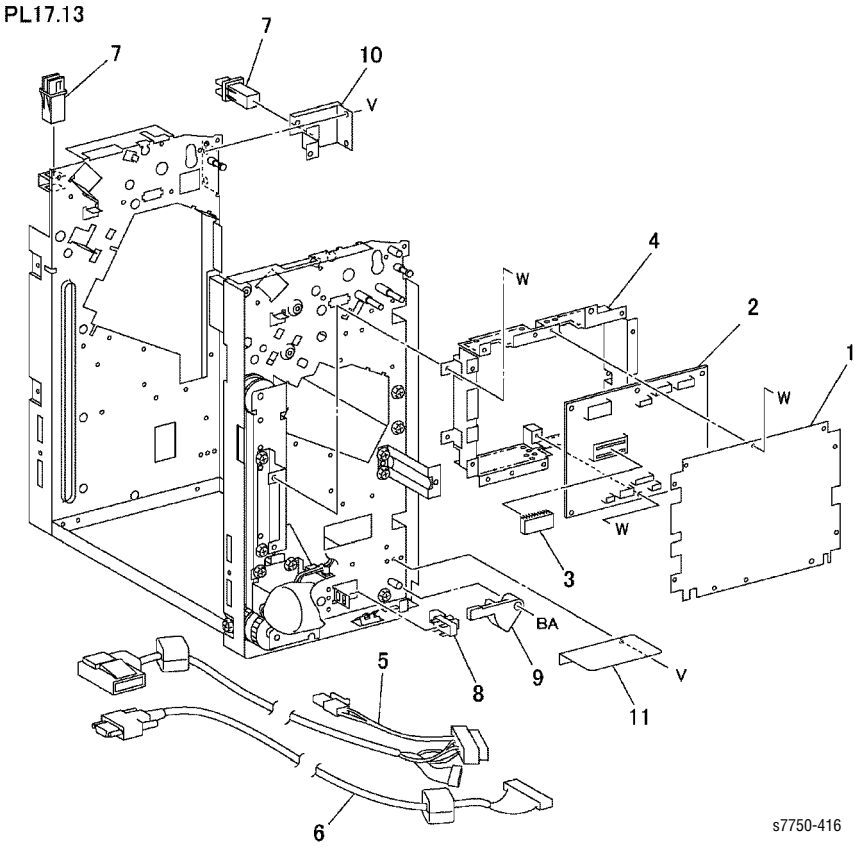
PL 17.12 Exit Assembly



Exit Assembly PL 17.12

No.	Part Number	Qty	Description
1			Gear (48Z)
2			Bearing
3	116-1243-00	1	Exit Shaft
4			Collar
5			Gear (32Z / 18T)
6			Bearing
7	116-1304-00	1	Paddle Gear Shaft (REP 17.12.1)
8			Paddle Bearing
9			Lower Exit Chute
10	116-1302-00	1	Pinch Roll (Exit 1)
11			Pinch Roll (Exit 2)
12			Pinch Roll (Exit 3)
13			Upper Exit Chute
14	116-1240-00	1	Compiler Entrance Sensor
15			Plate Spring
16			Bracket
17			Static Eliminator

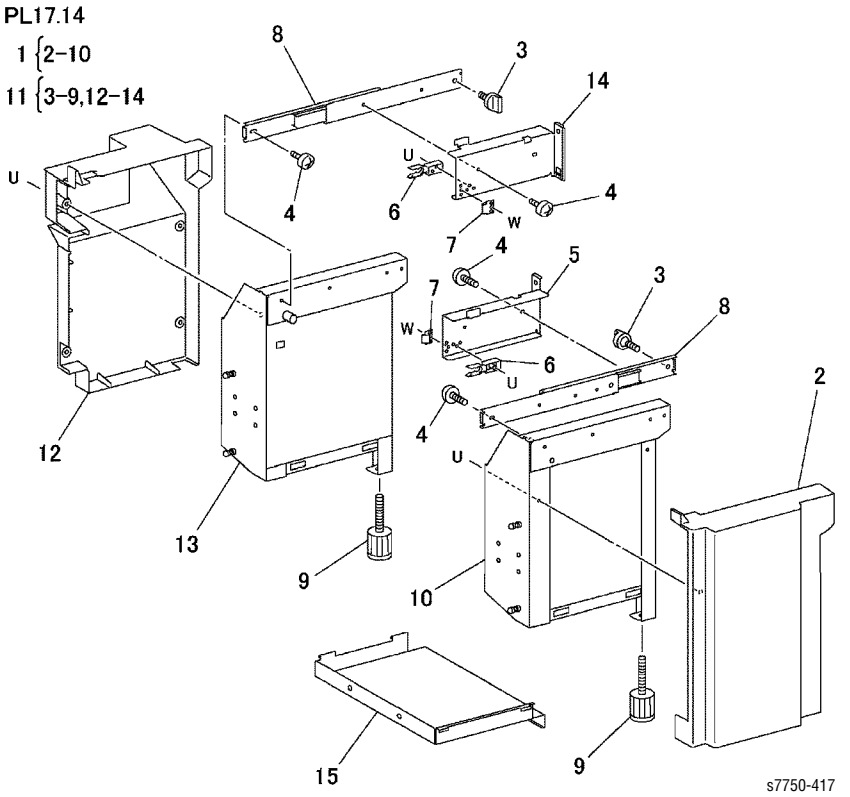
PL 17.13 Electrical Components



Electrical Components PL 17.13

No.	Part Number	Qty	Description
1			Board Cover
2	116-1235-00	1	Finisher Board
3	116-1314-00	1	ROM
4			PWB Bracket
5	116-1824-00		DC Harness
6	116-1825-00		Cable
7	116-1233-00	1	Top Cover/Front Door Interlock Switch
8	116-1253-00	1	Docking Interlock Switch
9			Spring Plate
10			Bracket
11			Plate

PL 17.14 Finisher Rack (Stand)



7.14 Finisher Rack (Stand)

No.	Part Number	Qty	Description
1	116-1315-00		Front Rack
2		1	Front Cover
3		1	Knob Screw
4			Screw
5			Bracket
6			Stop
7		1	Spring Plate
8		1	Rail
9			Foot
10			Front Rack
11	116-1316-00		Rear Rack Assembly
12			Rear Cover
13			Rear Rack
14			Bracket
15			Bottom Plate

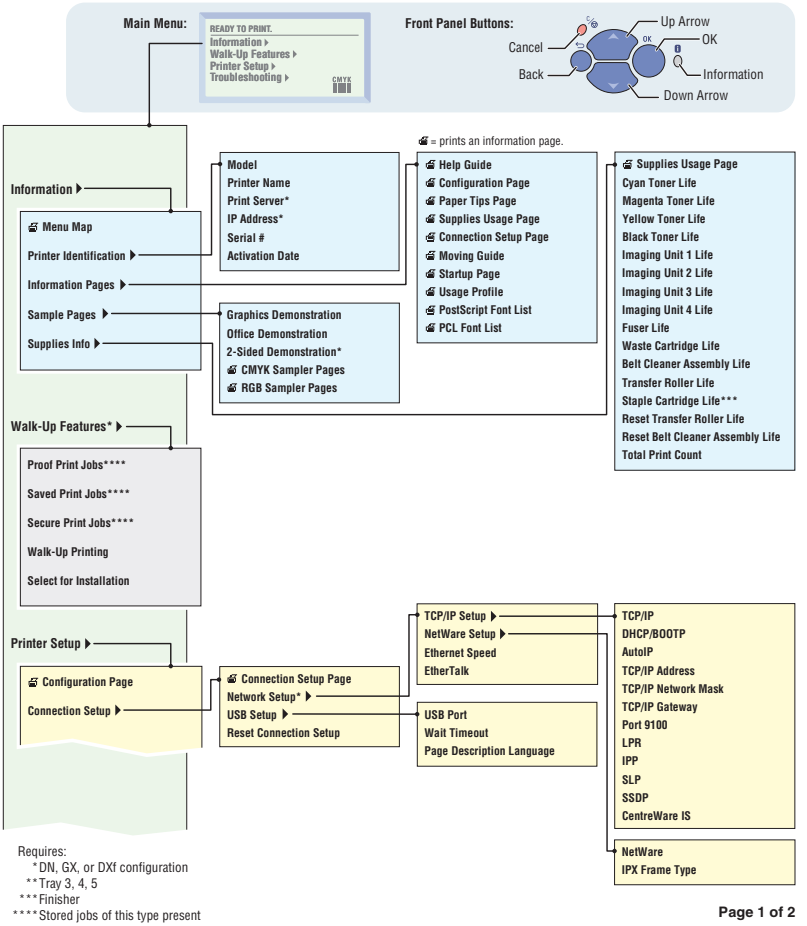
Appendix

Contents...

- Menu Map
- Service Diagnostic Menu Map
- Service Usage Profile Status Code Definitions Table
- Chain-Link Code Definitions
- Paper Weight Equivalence Table

Appendix A

Menu Map



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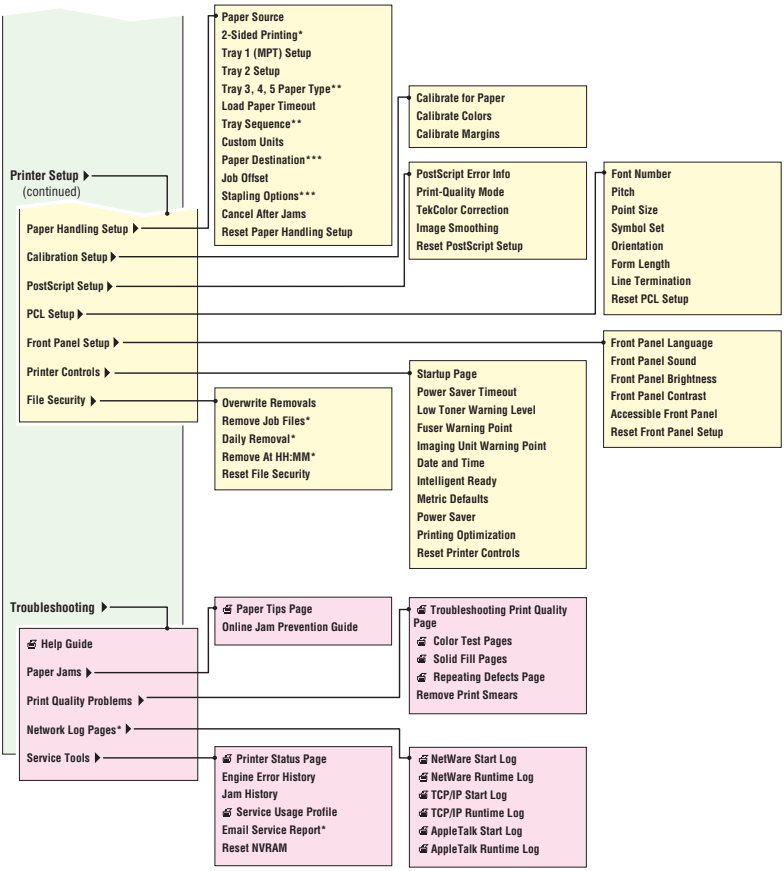

Requires:
*DN, GX, or DXf configuration
**Tray 3, 4, 5
***Finisher
****Stored jobs of this type present

Service Diagnostic Menu Map

Service Diagnostics Menu Map

Print Service Menu Map Prints a service diagnostic menu map and exits service diagnostics.

General Status Provides the current print engine status.

- **Engine ROM Version**
- **Configuration**
- **Ambient Temp/Humidity**
- **Fuser Temperature**
- **Fault List**
- **Front Panel Adjust**
- **Jam Info**
- **Fault History**

Built-in Test Prints Prints Test Prints. The prints are used by service personnel to identify, repair, and validate the operability of the printer.

- **Paper Path Options**
- **Print Laser Check**
- **Print HalfTones**
- **Print Grid 1-Dot**
- **Print Fast Scan 8 tone**

Sensor/Switch Tests Test the functionality of sensors and switches by giving service personnel the ability to input actuation and state changes of all sensors and switches.

- **Ambient Temp/Humidity**
- **Fuser Temperature**
- **Interlocks**
- **Jam Sensors**
- **POB Sensor**
- **Registration Sensor**
- **OHP Sensor**
- **Duplex Sensor**
- **Tray Feed Sensors**
- **Stack Full Sensor**
- **Fuser Exit Sensor**
- **1st BTR Retract Sensor**
- **2nd BTR Retract Sensor**
- **Fuser Present**
- **Read Fuser Fuses**
- **Accum MOB Sensor**
- **Belt Edge Sensor**
- **BTR Sensors**
- **ADC Sensor**
- **Toner Waste Cartridge**
- **Tray Sensors**
- **Tray 1 Sensors**
- **ATC Sensors**
- **Imaging Unit Sensors**
- **New Toner Cartridge Sensors**
- **Finisher Sensors (optional)**

Motors/Fans Tests Tests the functionality of motors and fans by giving service personnel the ability to energize/de-energize the motor and fans one at a time.

- **Main Motor**
- **Steering Motor**
- **Imaging Unit Motors**
- **Accumulator Belt Motor**

Motor Test (-cont'd-)

- **1st BTR Motor**
- **2nd BTR Motor**
- **Duplex Motor**
- **Paper Feed Motors**
- **Paper Lift Motors**
- **Offset Motor**
- **Developer Motors**
- **Dispenser Motors**
- **Agitator Motor**
- **Fan Motors**
- **Paper Path / No Pick**
- **Finisher Motors (optional)**

Clutch Tests Tests the functionality of the clutches by giving service personnel the ability to energize/de-energize one clutch at a time.

- **Take Away Clutch**
- **Developer Clutch**
- **Registration Clutch**
- **Duplex Clutch**
- **Finisher Clutches (optional)**

Solenoid Tests Tests the functionality of the solenoids by giving service personnel the ability to energize/de-energize one solenoid at a time.

- **Exit Gate Solenoid**
- **Duplex Gate Solenoid**
- **Shutter Solenoid**
- **ADC Shutter Open**
- **ADC Shutter Close**
- **Tray 1 Feed Solenoid**
- **Finisher Solenoids (optional)**

Adjustments/Calibrations Performs adjustments, calibrations and operations essential to the performance of the printer.

- **Belt Edge Learn**
- **ATC Sensor Setup**
- **TRC Adjust**
- **ADC Output Check**
- **Tone Up/Down**
- **Laser Power Check**
- **PWM Mapping Data Read**
- **Coarse RegiCon Init**

Maintenance Cleans the IDT rollers within the Imaging Unit.

- **Clean Fuser**
- **Clean Accumulator Belt**

NVRAM Access This menu lets you read, set, or reset the following values:

- **PostScript NVRAM Reset**
- **Clear Tech Rep Faults**
- **Reset CRU Life Counters**
- **Reset Engine NVRAM**
- **Store Engine NVRAM**

Exit Exits service diagnostics and reboots the printer.

For Authorized Service Personnel Use Only. Service Menu functions are to be used by Xerox service personnel and authorized service providers only. The printer can be damaged by improper use of the built-in service tests.

Service Usage Profile Status Codes

Code	Definition	Code	Definition
0	Ready	20	Tray 2 missing, not printing from 2
1	Accumulator near end of life	21	Tray 1 missing, not printing from 1
2	Fuser near end of life	22	Stapler not ready
3	Belt cleaner near end of life	23	Stapler near empty
4	Transfer roller near end of life	24	Stapler empty
5	Waste toner cartridge is getting full	25	Stapler Cartridge empty
6	Cyan toner is getting low	26	Job not stapled
7	Magenta toner is getting low	27	IP address is being used by someone else
8	Yellow toner is getting low	28	Processing Data
9	Black toner is getting low	29	Receiving Data
10	Imaging Unit 1 is near end of life	30	Engine is printing
11	Imaging Unit 2 is near end of life	31	Progress printing page n
12	Imaging Unit 3 is near end of life	32	Progress printing page n of n
13	Imaging Unit 4 is near end of life	33	Progress cleaning page n
14	No paper tray 4, not printing from 4	34	Progress cleaning page n of n
15	No paper tray 3, not printing from 3	35	Thermals unstable
16	No paper tray 2, not printing from 2	36	Initializing mech
17	No paper tray 1, not printing from 1	37	Clearing job
18	Tray 4 missing, not printing from 4	38	Cancelling cleaning job
19	Tray 3 missing, not printing from 3	39	Printer in cleaning mode
20	Tray 2 missing, not printing from 2	40	In Energy Star mode

Code	Definition	Code	Definition
41	Stapler not ready	66	No laser paper HC tray 2,
42	Top Cover Interlock open	67	No heavy paper HC tray 2,
43	Finisher Front Door open	68	No laser paper tray 3, printing
44	HT Interlock Sensor open	69	No heavy paper tray 3, printing
45	Docking Interlock open	70	No laser paper HC tray 3,
46	Stapler near empty	71	No heavy paper HC tray 3,
47	Finisher tray fail	72	No laser paper tray 4, printing
48	Finisher at capacity	73	No heavy paper tray 4, printing
49	job not stapled	74	No laser paper HC tray 4,
50	Finisher full	75	No heavy paper HC tray 4,
51	Finisher paper size change	76	No OHP in MPT
52	IOT Output Tray Full	77	No heavy paper in MPT
53	No paper, standard tray 4	78	No color laser labels in MPT
54	No paper tray 3, printing from 3	79	No envelopes in MPT
55	No paper tray 2, printing from 2	80	No thin cover/index in MPT
56	No paper tray 1, printing from 1	81	No thick cover/index in MPT
57	No paper, high capacity trays	82	No laser paper in MPT
58	No paper, high capacity trays	83	No paper in MPT
59	No paper, high capacity trays	84	OHP in MPT, needs labels
60	No laser paper tray 1, printing	85	OHP in MPT, needs heavy paper
61	No thin cover index tray 1,	86	OHP in MPT, needs envelope
62	No heavy paper tray 1, printing	87	OHP in MPT, needs thin
63	No OHP tray 1, printing from 1	88	OHP in MPT, needs thick
64	No laser paper tray 2, printing	89	OHP in MPT, needs paper
65	No heavy paper tray 2, printing	90	Paper in MPT, needs OHP

Code	Definition	Code	Definition
91	Tray 4 missing, printing from 4	**116**	OHP detected in tray 4, high
92	Tray 3 missing, printing from 3	**117**	Front door open
93	Tray 2 missing, printing from 2	**118**	Left door open
94	Tray 1 missing, printing from 1	**119**	Upper left door open
95	HC trays, tray 4 missing	**120**	Lower left door open
96	HC trays, tray 3 missing	**121**	Lower tray door open
97	HC trays, tray 2 missing	**122**	Lower high capacity tray door open
98	Cyan toner empty	**123**	Right door open
99	Magenta toner empty	**124**	Jam at output tray
100	Yellow toner empty	**125**	Jam at fuser unit
101	Black toner empty	**126**	Jam at multi-purpose tray
102	Imaging Unit 1 at end of life	**127**	Jam at tray 1
103	Imaging Unit 2 at end of life	**128**	Jam at tray 2
104	Imaging Unit 3 at end of life	**129**	Jam at tray 3
105	Imaging Unit 4 at end of life	**130**	Jam at tray 4
106	Accumulator belt is at end of life	**131**	Jam at duplex
107	Waste toner cartridge is full	**132**	Jam at tray 4, high capacity trays
108	Belt cleaner assembly is at end of life	**133**	Jam at tray 2, high capacity trays
109	Transfer roller is at end of life	**134**	Jam at tray 3, high capacity trays
110	OHP detected in tray, but paper is selected	**135**	Jam at door A
111	OHP detected in tray 2	**136**	Jam at door B
112	OHP detected in tray 3	**137**	Jam at door C, high capacity trays
113	OHP detected in tray 4	**138**	Jam at door C, low capacity trays
114	OHP detected in tray 2, high	**139**	HT Exit sensor on jam
115	OHP detected in tray 3, high	**140**	HT Entrance jam

Code	Definition	Code	Definition
140	HT Entrance jam	165	AutoSelect Needs Paper
141	Compiler exit sensor off jam	166	AutoSelect Needs Heavy
142	Tray 1 Needs Paper	167	AutoSelect Needs Thin
143	Tray 1 Needs Heavy	168	AutoSelect Needs Thick
144	Tray 1 Needs Thin	169	AutoSelect Needs Trans
145	Tray 1 Needs Trans	170	AutoSelect Needs Envelopes
146	Tray 2 Needs Paper	171	AutoSelect Needs Labels
147	Tray 2 Needs Heavy	172	Size Mismatch, Load Letter
148	Tray 3 Needs Paper	173	Size Mismatch, Load Legal
149	Tray 3 Needs Heavy	174	Size Mismatch, Load Statement
150	Tray 4 Needs Paper	175	Size Mismatch, Load Executive
151	Tray 4 Needs Heavy	176	Size Mismatch, Load Tabloid
152	Tray 2 HC Needs Paper	177	Size Mismatch, Load TabloidEx
153	Tray 2 HC Needs Heavy	178	Size Mismatch, Load 8x10
154	Tray 3 HC Needs Paper	179	Size Mismatch, Load Foolscap
155	Tray 3 HC Needs Heavy	180	Size Mismatch, Load US Folio
156	Tray 4 HC Needs Paper	181	Size Mismatch, Load Postcard
157	Tray 4 HC Needs Heavy	182	Size Mismatch, Load A3
158	MPT Needs Paper	183	Size Mismatch, Load A4
159	MPT Needs Heavy	184	Size Mismatch, Load A5
160	MPT Needs Thin	185	Size Mismatch, Load A6
161	MPT Needs Thick	186	Size Mismatch, Load RA3
162	MPT Needs OHP	187	Size Mismatch, Load SRA3
163	MPT Needs Envelopes	188	Size Mismatch, Load SP Folio
164	MPT Needs Labels	189	Size Mismatch, Load Oficio

Code	Definition	Code	Definition
190	Size Mismatch, Load B4 JIS	**212**	Fuser Missing
191	Size Mismatch, Load B5 JIS	**213**	Fuser Life Expired / fuser at end of life
192	Size Mismatch, Load B6 JIS	**214**	Accumulator Belt Missing
193	Transparency Size Mismatch, Load Letter	**215**	System halt, service call required
194	Transparency Size Mismatch, Load A4	**216**	Laser Failure
195	Label Size Mismatch, Load Letter	**217**	Polygon Motor Failure
196	Label Size Mismatch, Load A4	**218**	Accumulator home position took too long
197	Envelope Size Mismatch Load 10 Comm	**219**	Accumulator Home Position Failure
198	Envelope Size Mismatch, Load 9 Half	**220**	Accumulator Edge Sensor Fail
199	Envelope Size Mismatch, Load B4	**221**	Drum Motor Fail
200	Envelope Size Mismatch, Load B5	**222**	Unexpected Accumulator Home Sensor Fail
201	Envelope Size Mismatch, Load B6	**223**	Accumulator Drive Logic Fail
202	Envelope Size Mismatch, Load C4	**224**	Imaging Unit 1 Communications Failure
203	Envelope Size Mismatch, Load C5	**225**	Imaging Unit 2 Communications Failure
204	Envelope Size Mismatch, Load C6	**226**	Imaging Unit 3 Communications Failure
205	Envelope Size Mismatch, Load DL	**227**	Imaging Unit 4 Communications Failure
206	Output Tray Full	**228**	Transfer Roller Contact Failure
207	Imaging Unit 1 Missing	**229**	Transfer Roller Retract Failure
208	Imaging Unit 2 Missing	**230**	Fuser Main Lamp Failure
209	Imaging Unit 3 Missing	**231**	Fuser STS Front Failure
210	Imaging Unit 4 Missing	**232**	Fuser STS Front Warm Time Fail
211	Waste Cartridge Missing	**233**	Fuser SSR1 Fail

Code	Definition	Code	Definition
235	Fuser STS Rear Fail	260	Finisher Error 119
236	Fuser STS Rear Warm Time Fail	261	Finisher Error 120
237	Fuser SSR2 Fail	262	Finisher Error 121
238	Fan Fail	263	Finisher Error 122
239	Waste Toner Sensor Fail	264	Finisher Error 123
240	Yellow ATC Fail	265	Finisher Error 124
241	Magenta ATC Fail	266	Finisher Error 125
242	Cyan ATC Fail	267	Number of opcodes
243	Black ATC Fail		
244	Engine Logic Board Fail		
245	Engine Comm Fail		
246	Engine RAM ROM Fail		
247	Engine NVRAM Fail		
248	Controller to Engine Timing Fail		
249	Engine Micro Pitch Fail		
250	HV Power Supply Fail		
251	Tray Lift Fail		
252	Finisher Error 111 -		
253	Finisher Error 112		
254	Finisher Error 113		
255	Finisher Error 114		
256	Finisher Error 115		
257	Finisher Error 116		
258	Finisher Error 117		
259	Finisher Error 118		

Missing Chain Link Codes Definitions

04-605 IOT NVM EMPTY

07-270 TRAY 2 PAPER SIZE SENSOR BROKEN

07-271 TRAY 3 PAPER SIZE SENSOR BROKEN

07-272 TRAY 4 PAPER SIZE SENSOR BROKEN (3TM)

07-273 TRAY 5 PAPER SIZE SENSOR BROKEN (3TM)

07-274 MPT PAPER SIZE SENSOR BROKEN

07-276 TRAY 4 PAPER SIZE SENSOR BROKEN (TTM)

07-277 TRAY 5 PAPER SIZE SENSOR BROKEN (TTM)

07-930 TRAY 2 PAPER SIZE MISMATCH

07-931 TRAY 3 PAPER SIZE MISMATCH

07-932 TRAY 4 PAPER SIZE MISMATCH

07-933 TRAY 5 PAPER SIZE MISMATCH

08-620 ENVIRONMENT TEMP SENSOR FAIL

08-900 STATIC JAM

Paper Weight Equivalence Table

US Postcard thickness (mm)	US Bond Weight (lbs)	US text book weight (lb)	US cover weight (lb)	US Bristol weight (lb)	US Index weight (lb)	US tag weight (lb)	Metric weight (g/m^2)
	16	41	22	27	33	37	60
	17	43	24	29	35	39	64
	20	50b	28	34	42	46	75
	21	54	30	36	44	49	80
	24	60b	33	41	50	55	90
	27	68	37	45	55	61	100
	28	70b	39	49	58	65	105
	29	74	41	50	61	68	110
	32	80b	44	55	67	74	120
	36	90	50	62	75	83	135
0.18	39	100	55	67	82	91	148
	40	101	55	68	83	92	150
0.20	43	110	60	74	90	100	163
	45	115	63	77	94	104	170
0.23	47	119	65	80	97	108	176
	51	128	70	86	105	117	190
	53	134	74	90	110	122	199
	54	137	75	93	113	125	203
	58	146	80	98	120	133	216
	65	165	90	111	135	150	244

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